







Chris Wilkins Roger M. Kean

FUSION RETIRE ELOKS

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|--|
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| |

■ ■ And the family – my wife Nomita, daughters Amber and Sienna and son Milan – the best family one could hope to wish for and now avid Dizzy fans.



foreword

t's been a real blast from the past, digging through boxes upon boxes of old computers, game boxes, development notes and piles of disks. It's been as nostalgic as it's been dusty! There have been moments of delight in finding stuff we'd forgotten about, tinged with times of sadness at seeing great, unreleased work. But with the unreleased work, at least this book gives us an opportunity to show some of it and the stories behind why they never saw the light of day.

Who would have thought an egg could become such a hero?



It may be thirty years ago, but with the aid of all the development notes we've kept in Philip's loft for all these years we've been able to piece everything together pretty well. This

book only covers our first decade of making games, from learning how to make computer games in the early 1980s through to setting up a company, offices and employing people at Interactive Studios later renamed Blitz Games. It covers up to 1994, before PlayStation and the World Wide Web - both of which changed everything dramatically. It covers all our 8-bit and 16-bit games - on computers and consoles and the creation of the hugely popular Dizzy and Simulator series published by Codemasters.

This was a much simpler time in the industry, the only limits were our imagination and the technological constraints of very basic computers. It was never about trying to convince others if something would work and be fun, we simply got on with it. The most important thing was our determination to complete games to the best of our ability and get them released. We found that many people at the time liked playing around making little demos, many had ideas for games, but few followed through. An idea is worth nothing without follow through.

Being twins, our advantage was that we could drive each other on. We could challenge each other, and because we think so alike communication took



no time and we could get things done twice as fast. Along the way, many other talented people were obviously involved and the story would not be complete without them. We have therefore included them and in most cases asked them to be involved in writing memoirs. We have done our utmost to make this book accurate and truthful, but also entertaining and informative, so readers can see the influences that we had, and how they helped inspire so many classic games.

This first decade of our careers really shaped our lives and in turn the lives of so many others that over the years have worked with us. We hope you enjoy this book, almost as much as those early games from the 1980s and early 1990s.

Hilp Olive Andrew Ann

Philip Oliver & Andrew Oliver AKA The Oliver Twins

prologue: a family album



he Oliver Twins were born in Birkenhead, near Liverpool, at the height of Beatlemania in 1967. Philip was the elder, arriving 35 minutes ahead of Andrew. The twins were the youngest of five siblings: brothers Paul and Martin, and sister Susan. Their Dad was a naval architect, a job that kept the family moving about a fair bit. Before the twins' first birthdays the family moved to Bath, where they stayed for five years before packing up and moving to Lee-on-Solent.



In 1977 the Olivers settled in Trowbridge, near Bath, where the twins joined Grove Junior School and where their fellow pupils probably had a hard time telling Philip apart from Andrew. And that's how they have always been known, as *Philip and Andrew*, in that order.

'In fact, from about the age of twelve,'
Philip says, 'we made sure (almost) all



posed photos had me on the left and Andrew on the right. It's the only way we, and our family, knew which was which – that's one of the fun problems of being virtually identical twins.'

Philip and Andrew's
Dad shows his
teenaged sons a
model of a submarine
he designed. He
would later become
bookkeeper for their
business.









part one

How It All Started

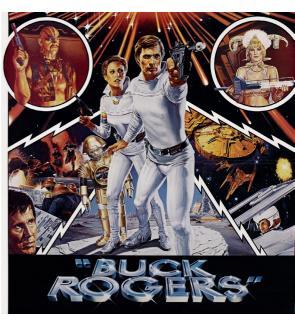
that meant we loved futuristic things,' Philip Oliver says of their early teenage years. 'Star Wars had come out in 1977 and for our generation that changed everything. We gravitated towards anything techie or futuristic: TV shows like Star Trek, Thunderbirds, Buck Rogers, The Six Million Dollar Man and Knight Rider.'

Entertainment to engage the imaginations of adolescent minds coincided – not unnaturally – with the emergence of electronic computing machines that for the first time fit modest budgets. Philip and Andrew's interest in computer games started in 1979, the year they were given a Merlin handheld. The twins played its simple games a lot, but the 'real thing' happened in the less-than exciting surroundings of a supermarket. 'Our first experience of a













real arcade machine was *Space Invaders* at the local Kwik Save. We loved the fact that it had colour, although on closer examination you could clearly see how they achieved it... with coloured plastic stuck to the black and white screen. Nice trick!'

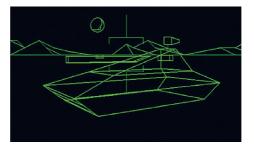


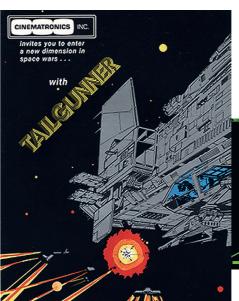
To fill a longing for gameplay, Philip and Andrew's parents bought them an Interstate TV Console (*picture on page 13*). It boasted several pre-programmed variations on *Pong*, but somehow the Interstate didn't fill the spot – the twins were still seeking the 'real thing' and a school-organised trip to Yeovil Aerodrome pointed the way.

'They had BattleZone and Tail

Gunner, which was clearly inspired by Star Wars — we were amazed by the 3D graphics! It may have only been vector graphics, just simple green lines, but it allowed you to think you were in a 3D world. The cabinets and controls were great too,' Andrew remembers.

'We spent that summer holiday of 1981 in Cornwall and visited Newquay, a seaside resort lined with takeaway shops and arcades.





Merlin, the Electronic Wizard handheld game from Parker Brothers (1978) was invented by former NASA employee Bob Doyle, his wife Holly and brother-in-law Wendl Thomas. Its 8 x 3 inches were shaped like an old touchphone.

Battlezone and Tail Gunner's 3D vector graphics were very impressive in the arcades of the 1980s.



Pac-Man and air hockey tables, the stuff of early 1980s arcade fun, while at home a ZX81 might be half an answer.

Besides the usual coin-cascade machines and air hockeys, they also had a Pac-Man machine.

We stood watching it for ages, occasionally stepping back to actually let someone play. We didn't have much money and weren't about to feed it into a game we didn't know how to play. At one point a man came past, and seeing our fascination he kindly put £1 in for us! Wow... we got to play it!'

Home computers were rarities in the first and second years of the new decade: Commodore's PET was expensive and over-serious, its more interesting successor, the VIC-20 had barely arrived on British high streets,

they can look back on it knowing how much it helped Ivan's career...and ours.'

And then in December of 1981 something seminal occurred: the twins' older brother Martin bought a secondhand Sinclair ZX81 for £50. 'The buying experience was really funny, looking back on it,' Philip recalls. 'I jumped in the car for the ride over to Bristol. We went in and Martin asked the guy, "Why are you selling it?" He said he was buying another machine, the new BBC Model A computer. At the time I thought, "Why would you need a different one? A computer is a computer."The ZX81 taught us an important lesson: not all computers are equal! It had 1K RAM and only a black and white character-



while the Apple II was beyond most budgets - though Philip recalls that, 'A school friend, Ivan Link, showed us his dad's Apple II computer. He had games like Tax-Man, a copy of Pac-Man, Night Mission, a pinball simulation, and Zork, a text adventure. We spent hours at a time playing these games. I can't imagine his parents were very happy... but at least

mapped screen. We craved more speed, RAM, better sound, colour graphics with more pixels and a proper keyboard. It had a manual, which explained all the BASIC instructions and several example programs. We read every page and typed in every listing, often trying to modify and improve each to add additional functionality. Despite its limitations, we

spent every minute possible trying to write very simple BASIC games on the family TV – games like *Pong*.'

The boys were studying at Clarendon School (now an Academy) and a happy circumstance in the spring of 1982 allowed them better access to education in BASIC. 'Our school was next door to Trowbridge College – now Wiltshire College. They'd invested heavily in teaching computing and had approached our school with the offer of teaching O-Level Computer Studies. Andrew and I jumped at the chance, especially as the school timetabled it as a language attachment, meaning you got the choice of French, German or computer science.' Philip and Andrew give wry shrugs. 'Well basic is a language isn't it? It was an obvious choice.'

However, it was all very well becoming fluent in Basic when all they had at home to work with was the ZX81. 'We played around a lot with it, but couldn't really do much. It was so slow, really hard to use the keyboard, and with only 1k of RAM it ran out of memory within a few lines of typing.'

They tried convincing their parents to buy a better computer and, after due consideration, they chose the soon-to-be-launched Dragon 32 because it boasted colour, lots of memory and a decent keyboard. But the advertised cost of £200 was daunting. 'So we did a newspaper round every morning and evening for six months or so, and lots of jobs around the house to earn pocket money,' Philip says. 'Other kids at school were looking at computers like the ZX Spectrum – which had been released a

"We craved more speed, RAM, better sound, colour graphics with more pixels and a proper keyboard."

few months earlier – or VIC-20 and the new Commodore 64, but we thought the Dragon was the better option. The C64 was being launched around the same time, but we didn't consider that because of its appearance – we thought it was just a VIC-20 with more RAM.'

Below: the Oliver
Twins' Interstate TV
Console, left, and the
Entex Super Space
Invaders 2 handheld.
The handheld came
in two distinct body
styles, but the game
played the same on
both.





They had managed to save up about £100 by the start of August and at that point their parents stepped in and paid the rest as an advance birthday present so that the twins were able to buy the machine on the day of release. The school holidays intervened before the Olivers could get to grips with their new beast and that summer they were back in Cornwall, in Bodmin this time. 'It was a very wet summer and we used to pop along to a small arcade that had Centipede, Missile Control and Asteroids, and a few others, but these were the best. It was so rainy our parents gave us enough money to play them quite a bit!' And the arcades provided inspiration to

get programming when they returned home.

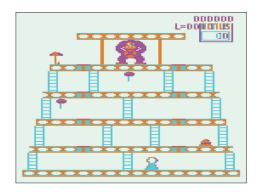
'There weren't many games for the Dragon,' they both agree. 'The best was *Donkey King*, but we felt a bit cheated. We wanted to spend the evenings playing with our new toy and the games got boring very quickly.' Perhaps the disappointment in the few available games showed because as a second joint-birthday present in October they received another handheld game.

'Super Space Invader 2 was brilliant,' says Philip enthusiastically. 'You could play in single-player mode, or



two-player mode – against each other. Perfect for us.'

But back to the Dragon, and Philip points to the lack of games as a blessing in disguise. 'The Dragon didn't sell that well because of competition from the Spectrum, C64 and the BBC Micro, so those people who could develop games didn't spend their time programming and publishing much for the Dragon, where sales would have been low. Once the early thrill of playing those few games wore off we spent most of our spare time learning how to program the computer. At first we typed in the small listings that the BASIC manual contained.



They were there to teach the hobbyists how to program and that's very much what the manufacturers had in mind for computers in those days. But as we all know, most kids were buying them just to play games. Then we moved onto visits to the local college library looking for listings we could try. Sadly, Dragon 32 listings were rare and so we often tried typing in listings for other computers but without success, although we did find that Tandy listings came closest to working.'

Through all the trial and error and



modifications needed to make the listings work, Philip and Andrew learnt how to write Basic programs efficiently.

'Our computer studies lessons started in September 1982,' Andrew continues. 'We had to walk across the playing fields twice a week to attend classes at the college, often a very muddy walk! During the first year we mostly used RM 380Zs – large black tin boxes with massive 8-inch floppy disks, each with a capacity of 56K!'

'But we seemed to spend more time defragging disks than doing any learning on them,' adds Philip. 'That didn't bother Andrew and I as we had the Dragon 32 at home, and later a BBC B, both of which were far better. By our second year, the college had bought some BBC Micros so we were in our element.'

Defragging disks wasn't the only occupation. Philip remembers enjoying running around the various girls in the class helping them with their programming.

Best of a poor bunch, Donkey King, left, was an unashamed copy of the arcade game with one vowel changed in the title. Other machines, like the BBC Micro, above, were tough competition for the Dragon.

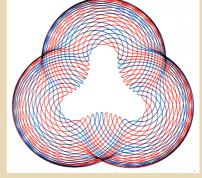
Turning Turtle

'What was great about the Dragon 32 was it had lots of fun easy-to-understand commands, to do with drawing lines, circles, and even a fill command,' Andrew

says. 'It had a funny simple Turtle-like programming language, so you could easily DRAW- For x pixels, Turn y Degrees, DRAW... change colour etc., and make fun patterns, like an advanced, programmable Spirograph.

A simple spirograph pattern, easily created with Turtle programming language.

'It also had the unique GET(Name, x, y, width, Height) command and PUT(Name, x, y) command. Effectively, you could easily 'cut and paste' pieces of graphics and move them around the screen. It wasn't a



full hardware sprite command, but was effective, fun and easy to use and inspired us to go on and create something similar on different computers that would prove very useful. It was actually a great computer to encourage and teach programming easily.'

On the road

Since there were few listings for the Dragon 32, the twins thought they would try to write one and see if they could get it published.

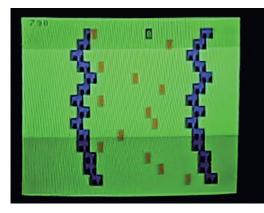
'We wanted to create something that would be fairly short to type in, but produce a good game and be well structured,' Andrew picks up the story. 'We came up with the idea of a topdown racing game with a procedurally generated road with occasional obstacles. We called it *Road Runner*. Players would

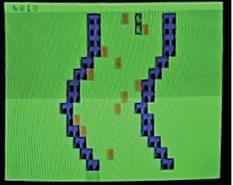
have to steer their car – well, block really - left and right on the snaking road and progressively it would get narrower until the player finally crashed. We both worked on it, although, I think that it must have been Philip's idea and I was happy for him to put just his name on it. Although I know for sure he would have been the one to write the letter and send it off to Computer and Video Games magazine.'

There is a funny story attached to the actual production of the listing itself. 'We wanted to write it and print out the listing, as that's how it would be published,' Andrew explains. 'But we didn't have a printer. Our Mum had the use of a typewriter at the local college where she worked. So we got the code list working on the computer and then

A large black tin box with an 8-inch floppy drive - the Research Machines 380Z.







copied it in handwriting onto paper, and she took that to work and typed it. This was a time before the delete key! If you made a single mistake you had to use Tipp-Ex® and backspace. She brought it back home, we looked through it, and she'd made some syntax errors - placing spaces, or commas instead of full stops, and so on. Computers are very fussy about

typing in listings with errors ourselves and it was highly annoying. So we marked it up with red pen, gave it

back for Mum to re-type and once we were happy we sent it off to several popular magazines of the time.'

That was in November 1982 and the brothers heard nothing until almost a year later when out of the blue a communication from C&VG dropped through the

letterbox. 'They said they liked the listing, and it would be published in the next issue and they would pay us £10 for it. We were really pleased to see it finally in print - even if we didn't even own our Dragon 32 anymore!'

Road Runner finally appeared in December 1983 in issue 27 of C&VG (cover date: January 1984).

'Apart from buying the issue and being proud to show it to our "geeky" friends, we didn't really think much more about it,' Andrew says with a smile. 'It was only years later that someone asked why on earth did we go to that effort and not just save it onto a cassette

Two screens from Road Runner on the Dragon 32.

'This game looks quite easy, guiding the little black square down the road. avoiding the little ginger squares...but it's controlled using an analogue joystick and it tends to drift left and right, so it's pretty tricky, especially when the road starts to get narrow...'

The typist's delete command: Tipp-Ex® was in frequent use back in the 'good old days'.

The Road Runner listing eventually got printed in C&VG's January 1984 issue, almost a year after submitting it to the magazine. If you own a Dragon 32 and have the patience, you can type out the listing from the following page...





BY PHILIP OLIVER

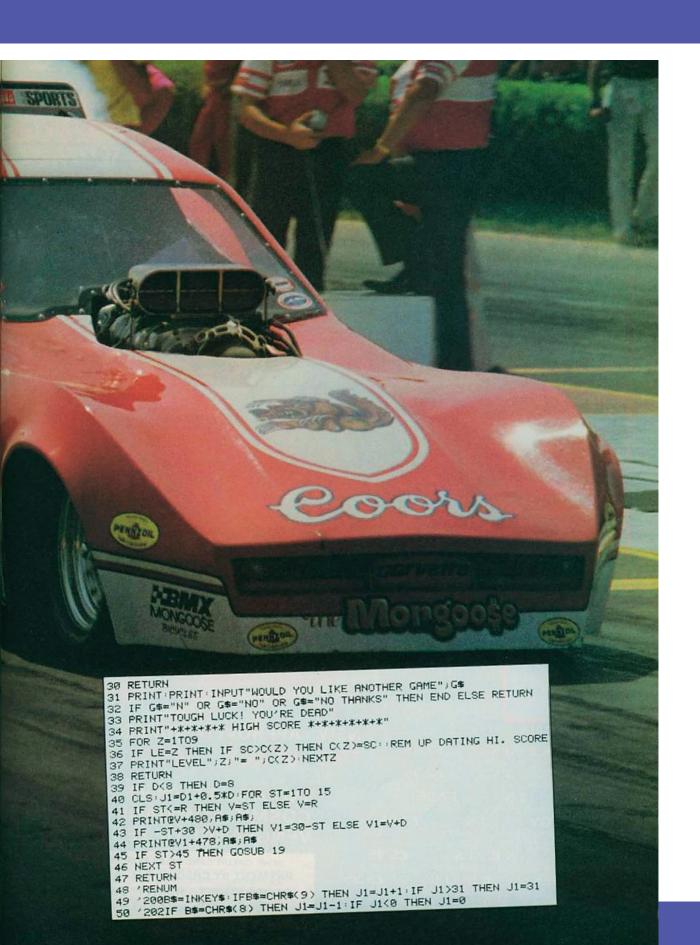
SCORE

RUNS ON A DRAGON 32

Vroocom, vroocom! Rev-up for a fast and furious race track challenge in your turbo-charged Dragon Special. Streak down the road, overtaking all the opposition. How far can you get without crashing?

This game has a couple of options for the player.
You choose the number of lives you have and the speed. All that and a hi-score feature too! Will you score the fastest lap — step on the gas and find out

```
Ø REM ROAD RUNNER BY PHILIP OLIVER
                                                         BY PHILIP OLIVER"
1 CLS:PRINT"+*+*+*+* ROAD RUNNER +*+*+*+*
3 REM TYPE THEN FOLLOWING FOR GREATER SPEED: -POKE "65495,0"
2 REM FOR THE DRAGON 32
4 REM MRIN PROGRAM LOOP 7-9
5 GOSUB 13 REM SETTING VARIBLES
6 GOSUB 39 REM "V" SHAPE TO STOP CARS ESCAPING
7 FOR M=1T09999999999 GOSUB 23
8 GOSUB 19
9 NEXT M
10 GOSUB 33
13 SC=0:BE=1:D1=12:D=18:R=6:A$=CHR$(143+32):REM SC=SCORE:BE=BEAT HI. SCORE:J1=P0
SITION OF NEAR SIDE ROAD DEDANGER! WIDTH OF ROAD RESTARTING POSITION FOR ROAD AS
 SIDES OF ROAD
 14 INPUT"HOW MRNY LIVES WOULD YOU LIKE (1-9)"; LE
 15 IF LESS OR LECT OR LECTINTCLES THEN 14
 16 FOR Z=0TO LE:XS=C(Z):NEXT Z:REM SET HI. SCORE
 17 S=LE:PLRY"T42/RBCDBCDECDEFDEFG"
 19 J=JOYSTK(0)/32:J1=J1+J-1:IF J1>31 THEN J1=31 ELSE IF J1<0 THEN J1=0
 20 IF POINT((J1)*2,4)=8 OR POINT((J1)*2,4)=3 THEN SOUND 200,2:S=S-1:IF S=0 THEN
 10 ELSE 6
 21 POKE1088+J1,47+S
 23 RN=RND(3)-2:R=R+RN:IF R(1 THEN R=1 ELSE IF R)D1 THEN R=D1
  25 PRINTE(RND(D))+480+R, CHR$(143+112); REM PRINTS RANDOM CARS AT BASE OF SCREEN
  26 PRINT@R+D+479, A*, A* REM FAR SIDE OF ROAD
27 SC=SC+10:IF INT(SC/1000)=SC/1000 THEN D=D-1:IF (INT(SC/10000))=SC/10000 THEN
  PLRY"T42; ABCBCDCDEDEFEFG": S=S+1: REM FREE LIFE AT 1000
  29 IF SC>XS THEN IF BE =1 THEN PLRY"T42; ABCDEFGFEDCBA" BE=0 REM FOR BEATING HI.
```



and send it in. It would have been easier for them at the magazine to review and they would have a printer. We were lucky that they were short of material for that issue, and they could recognise it was worth typing in. It just never occurred to us to save on cassette, which we could have easily done. Sadly we had to write two letters chasing them for the £10, which took five months to get!'

Hanging on for delayed payments was something the twins would have to get used to.

Completely obsessed by computers,



Packing a lot inside, faster than the Dragon, with more graphic modes, more RAM, better BASIC... and a nice keyboard - the BBC Micro.



Philip and Andrew could see that market forces were against the Dragon. They needed something with more pizzazz. Philip takes up the story. 'We

were really impressed by the BBC Model B computer which was much faster than the Dragon 32, was more popular and had some great games. It was very expensive at £399, but when we bought the Dragon for £199, they had offered that if we brought it back in good condition we could trade it in towards a BBC B. Our parents loaned us the additional money we needed to purchase it, and we put a chart on the wall of the money we owed and the odd jobs around the house we could do to reduce the balance.

'The BBC had eight graphic modes (0 through 7 – programmers always start counting from zero), 32k RAM and a great built-in BASIC & Assembler (or Machine Code) language compiler. There was also a BBC TV series that aired weekly with the promise of helping you learn how to program. In reality all they could do was inspire - if you wanted to learn to program you needed time with the manual that came with the computer. We already knew BASIC, but the BBC's BASIC was slightly more advanced and the thought of being able to do more excited us.'

Hitting the small screen

Fourteen going on fifteen, Philip and Andrew Oliver did as most other kids did on Saturday mornings in the 1980s - watch TV and the three hours' of live studio shows. The general fare included articles on pop groups, short informative documentaries, cartoons

and occasionally computer games. TV programme controllers, ever aware of the need to capture any teen interest, had just begun to see some sense in covering the computer games fad before it slipped away into inevitable obscurity like plaid, polyester bell-bottom trousers.

'The big ones were BBC's *Multi-Coloured Swap Shop* or simply *Swap Shop* as it was known, with Noel Edmonds and Keith Chegwin, and ITV's *Tiswas* with Chris Tarrant, Lenny Henry and



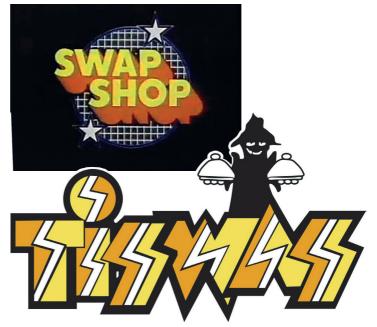
Sally James,' Philip recalls. 'Tiswas had just finished its season, but there was this new ITV show with Jeremy Beadle, Tommy Boyd and Isla St Clair called The Saturday Show. They were always looking for subjects popular with kids and sometimes talked about games. But on this occasion, they announced a Design-A-Game competition, and kids had a month or two to send in their best ideas for a computer game.'

'We thought we had nothing to lose and would go and try and write a game

and send it in,' adds Andrew. 'At this point, we'd only just bought the BBC Model B, and only knew BASIC, so we decided to make a game that wouldn't



ITV's high-profile *The* Saturday Show with host Tommy Boyd interviewing members of Duran Duran in 1983.



require much speed, since BASIC was pretty slow. We came up with the idea of a board game on the computer and called it *Strategy*. By then we only had a couple of weeks to write it if we were to get it in for the closing date.'

Some awareness of marketing was already at work because to make sure their entry got noticed they attached a little pom-pom bug with big eyes

Opposite: Birmingham's famous Rotunda Hotel — temporary home to teenage gaming stars and their parents.

to the tape cassette. 'We wrote in the accompanying letter that we'd included the last bug that we found!' Philip says with a laugh.

Andrew says it must have helped. 'A couple of weeks later, we'd just got home from school, around six o'clock on the Thursday. The phone rings and Philip answers it. They ask to speak to a Philip or Andrew. Philip says it's him, and the first question is "how old are you?" He says fifteen and then the person tells him

"...the person tells him that he's from ITV and we've won the computer game competition."

that he's from ITV and we've won the computer game competition. It will be a live programme on a Saturday morning, broadcast from a studio in Birmingham. Can we go there, Friday evening? They will pay all expenses.'

'The next day we had to keep it secret at school, which was fine because we were both very nervous and unsure about it,' Philip admits. 'We stayed in the famous Rotunda Hotel in the centre of Birmingham. We got up early to go across to the TV studio and joined lots of kids who were part of a general audience.'

The twins were in good company: the guests that Saturday included the Harlem Globe Trotters and the former frontman of electro-pop group Tubeway Army, Gary Anthony James Webb, better known as Gary Numan.

Being on live TV was quite an experience. 'Watching the calmness in front of the cameras and the "silent" chaos behind the camera, with people rushing from one recording shot to another, and then big sighs of relief as they cut to adverts or a cartoon was quite surreal. There was a guy behind the camera who held up large cards with "Laugh!" or "Clap!" written on them, which was really funny. There were even several Harlem Globetrotters chucking balls around off-camera.' Philip pauses for breath before getting to the nub of the day. 'On one of the breaks for a cartoon, they grabbed the BBC Micro and TV and set it up at the front. We rushed down and ensured it was working, and then we ran around to the back of the audience as they announced the winners and called us down to show off the game and talk a little bit about it.'

The boys were young, embarrassed and naïve, 'But I think it went okayish,' Andrew says. 'There was the comment which often gets joked about, as Philip explained that "I designed it and Andrew typed it in." I can be seen saying under my breath, "It's called programming!" But Philip was trying to put the process into layman's terms, and actually we both worked on it together and equally.'

The surreal quality to the day didn't end in the studio. After the broadcast Philip, Andrew and their parents went up to the studio bar for coffee and biscuits with the TV crew, presenters and guests. "And there was Gary Numan,



Philip, preparing to demonstrate his skill at playing *Strategy* on ITV's *The Saturday Show.*



famous for songs like "Cars". He was clearly rich, quite outwardly eccentric and adored by his many fans who went crazy when he performed on the show,' Philip says. 'And we remember our parents having an idle chat with him which we thought really funny. Then somebody came over to Gary and said, "Please can you drink up and go and sign some autographs for your fans?" He was beckoned to the window and we looked out and there was a huge number of people in the paved area below, some dressed and looking just like him.'

Philip and Andrew's own fans were also impressed but less reverent. 'When we went back into school on Monday morning we got so many people saying, "Wow, we saw you on the TV, what was it like?" and so on, and from that moment on they called us the game-making geeks. We didn't mind, proud of being able to make games.'

Commodore had sponsored The





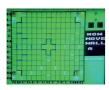


Saturday Show competition, with a new Commodore 64 as the prize, but because the boys already owned a BBC Micro it was decided to award them a

'Philip, it's called programming!'
Keeping it simple for the layman on *The Saturday Show.*



Competition winners posing for the press as 'Early Computer Wizzkids' for the game Strategy, the screen below photographed from the original, and 'tidied up' to the right to become Gambit.



Commodore monitor instead, although it did take some six months to arrive. 'But it was incredibly useful,' Andrew says. It was used every day for over fifteen years. It still works to this day!"

The next obvious step was to get the prize-winning game published.



ACORNS≜FT

Philip takes up the story. 'We tidied it up a little, mainly trying to improve the speed, and sent it to the leading publisher on the BBC - Acornsoft. We were absolutely delighted when at the end of September 1983 they offered to buy it for £1,200 or on a royalty of $7\frac{1}{2}$ %. They requested we change the name and we came up with the name Gambit."

'Philip knew the term from his chessplaying days,' says Andrew. 'He had won the Wiltshire county finals a few years earlier.'

'Acornsoft took a long time to publish *Gambit* [see panel below]. It finally came out in March 1984 – again

Diary of a Gambit

Philip and Andrew were to learn early on in their careers that while they might knock out a game within a few weeks, getting the end product into the shops could be another matter entirely, as their experience with Acornsoft and Gambit goes to show. On 9 January 1985 they wrote to complain about both the delays and the disappointing royalty they had received of £166.41 to the end of December 1984. The letter was presented as item points:

April 1983: Gambit sent to you for assessment. June 1983: Verbal agreement to publish.

August 1983: You requested another tape after losing the first one! Improvements also requested.

a year after writing it, and to our surprise and disappointment they had packaged it with another game called *Blackbox*, which meant we had to give up half of our royalty.'

Leaping the generation gap

With *Gambit* published, if hardly a runaway success, a lot more games went off to publishers, but most never replied and those that did weren't interested in games written in BASIC. 'That wasn't too surprising,' Philip admits, 'when we looked at the quality of the games others were writing in assembler, often referred to as machine code. This was some kind of voodoo magic that we had no hope of understanding — especially as we didn't want to spend money on books!'

An Exciting New On-Screen Magazine For The Users Of All 32K BBC Micros Over 70K Of Programs Ready To Run SPECIAL COLLECTION: Five utilities to add to your counting and logic experience of the policy of the programs of the

They found more success with an innovative, though short-lived, magazine-on-cassette called *Model B Computing*, published by Argus Specialist Press. The magazine accepted

September 1983: We returned amended tapes.
October 1983: First contract received, which we asked to be altered.

December 1983: Second contract received/signed.Jan/Feb 1984: Phone calls led us to believe *Gambit* would be in the shops by Easter.

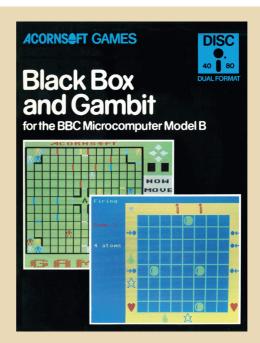
April 1984: Further phone calls indicated June.

June 1984: We were told games do not sell well during the summer and that your aim was to have it in the shops for Christmas.

November 1984: *Gambit* featured with *Blackbox* in your Autumn Catalogue.

December 1984: This is the first we learned of *Gambit* appearing with another game which would reduce our royalties. Renegotiated contract for 5%. Recceived our copies of *Gambit* and *Blackbox*.

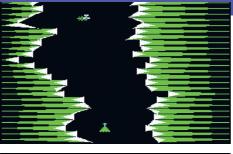
January 1985: Gambit still not seen in shops.



February 1985: Received royalties totalling £166.41, six days late – and had to pay 11p for unpaid postage!

The final box, disappointingly doubled with *Black Box* – the bundle did not sell many copies.

Centre and facing page: Bruce Forsythe's *Generation* Game was top telly and the final confrontation the unlikely inspiration for the Oliver Twins' game Beebscope. And a selection of software company letterheads, each representing a load of correspondence to and fro to sell Beebscope.







the code as to how the game worked. We

wrote a Bingo game, a card game called

Pairs and a character editor utility – they

paid £100 for each. In addition they sent

us games to review, so we got free games

and £25 for each review. We did Canyon,

Dr Who, Dune Rider and Frak! - which

We also produced a special magazine

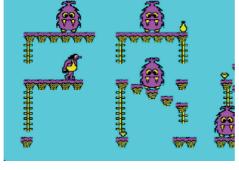
intro, with a laser writing out "Model

was brilliant, we loved it, it was rock hard!





The twins earned regular pocket money writing reviews for the cassette-based magazine *Model B Computing*. **Top to bottom:** screens from *Canyon*, *Dr Who*, *Dune Rider* and their favourite, *Frak*.



Wordmaster, written by Philip for his O-Level project work, paid the princely sum of £100 for it, and even promoted it with a picture on the cover. More work followed. 'They needed lots more games written in BASIC so people could play them and then see how they were made. So we did our best to write really tidy, efficient code with lots of comments in

B Computing" set to the music of "The Black and White Rag".'

Model B Computing lasted only eighteen months, closing in May 1985, which might have been a blow but the twins had been sending in only their smaller games - they had bigger ambitions: to have their work published as standalone games. Sadly, the first project failed to deliver the anticipated promise and stands as an example of the pitfalls early 'bedroom' games programmers often faced. It was the return to school in the September of 1983 and the twins were entering the fifth year (today referred to as Year 11), now at Trowbridge College. The school had announced a programming competition with several categories and cash prizes for each ranging from £20 to £50.

Since the BBC Micro was heavily promoted to schools, Philip and Andrew thought what better than to write an

educational game. 'We wanted to get it published and because the BBC Micro was sold as an educational computer, we thought an educational game would be fairly easy to sell too,' Philip says. 'It was something we could confidently write in BASIC, and would be fun to play.'

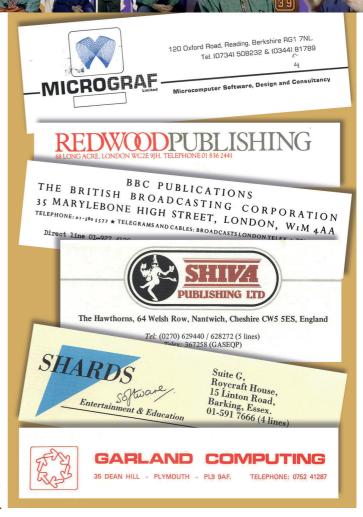
Inspiration came from an aspect of the BBC's popular Saturday evening TV show *The Generation Game*, hosted ACOMSOFT

ACOMSO

by Bruce Forsythe. In the last game two finalist contestants watched a series of household objects parade past them on a conveyor belt. Their task was to remember as many objects as they could and then recite the list to Brucie. Everything they remembered correctly they could keep. 'We thought it was a fun memory game and something we could copy onto a computer,' Philip says. 'We went one better by adding a bunch of variant games like "spell as many objects correctly as possible in a set time limit".'

'We used the BBC's Mode 7 (Teletext) which was very fast as we were still writing in BASIC which was slow,' adds Andrew. 'We drew about a hundred household objects, which it was only possible to fit into the memory due to the compressed format for Teletext graphics.'

They called it *Beebscope* and cheekily submitted the game for every category in the college competition. 'About forty







Starship Command



Snapper



Rocket Raid



The Sentinel



Killer Gorilla



Elite



Mr EE



A host of influences

Ownership of a BBC Micro opened a magician's box of opportunities for Philip and Andrew. 'It became a period of heavy research into different game genres. We didn't realise it at the time; we just loved playing games. We bought a Viglen floppy disk drive and that gave us the ability to load games really fast (under a minute), but more importantly to borrow compilation disks from a few friends at school. They were very easy to copy too, so within weeks we had a dozen compilations each with between five to ten games on a disk. We loved playing all the different types and seeing the variety... and yes, we still have those disks!'

Even in later years when Philip and Andrew were equipped with Amstrads and Spectrums for development purposes they left their BBC B set up for playing games. They rarely played games on the Amstrad – although among those they owned a few favourites stood out such as Ikari Warriors, Bomb Jack and *Out Run* – and they never had any games for the Spectrum and never owned a Commodore 64.



For the BBC B several games stood out as favourites and their influence on the twins' later games is easily seen.

To name a few:

Snapper - (Acornsoft) a great copy of Pac-Man

Rocket Raid - (Acornsoft) a great copy of Scramble

Planetoid! – (Acornsoft) a great copy of Defender

Killer Gorilla – (Micro Power) a great copy of Donkey Kong

Mr EE - (Micro Power) a great copy of Mr Do!

Thrust (Firebird)

The Sentinel/The Sentry (Firebird)

Elite (Acornsoft)

Starship Command (Acornsoft)

Tarzan (Alligata)

Revs (Acornsoft)

Aviator (Acornsoft)

Frak! (Aardvark Software)

Repton (Superior Software)

Chuckie Egg (A'n'F Software)

Castle Quest (Micro Power)

JCB Digger (Acornsoft)











Chuckie Egg



Frak



Planetoid!



below left: JCB



Aviator

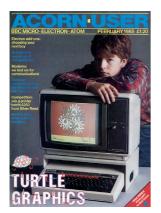


Repton



Acorn User - founded by Acorn Computers in 1982 and published by Addison Wesley until 1984 when Redwood Publishing took control - opted to publish Tellscope.

people turned up for the prize-giving held in a classroom. After a speech the winners were announced,' Philip remembers with a modest smile. 'We won virtually every category and went to the front to collect each envelope. It was actually really embarrassing after the fourth or fifth time, but we did net around £250 that evening.'



Beebscope winged its way to a number of publishers and in November 1983 Acornsoft offered £900 for the game, subject to a few changes including a change of name.

'We accepted, made most of the changes requested, including renaming the game Tellscope, and after a bit of chasing they accepted

it for publishing.' It looked as if the Oliver Twins had finally made it, but after a long wait of eight months a letter dated July 1984 arrived. 'Acornsoft said

they'd decided not to publish it and sadly we weren't going to get paid either. After trying to get them to reconsider we ended up sending it around to publishers again. Eventually, over a year after writing the game, Acorn User Software published it.'

EARLY LEARNING PACK AGE

Far from Acornsoft's promised £900 they were offered only £200 and worse was to come. 'Acorn User Software's strategy was to sell mail order only, advertising it in their Acorn User

magazine and sadly they only sold five copies of the game! When we asked for a few complimentary cassettes they sent us a box of about two hundred. We took ten copies

Dear Sirs,

Thank you for your letter of the 19th May 1985. This is just to let you know how many sales we have had so far of your Tellscope game. Up to the 2.5.85 only 3 disc and 2 tapes had been sold so I am not enclosing royalties.

Hopefully sales will pick up over the next few months.

Yours faithfully, p faral Rollis

Two letters from Redwood Publishing dated 21 May 1985 and 4 March 1986 tell the sad fate of *Tellscope*'s royalties. Dear Mr Ulive

We hope that by now you have received our cheque for £17.14, to cover Royalties as at 12th February 1986, for the sale of your program Tellscope on cassettes and

We regret that the demand for your program has been Very disappointing, and we have therefore taken the decision to cease selling Tellscope.

However, remaining stock will be given away in subscription promotions. Hence the cheque for £17.14 will be the last Royalty cheque issued by us.

If you would like any copies of your program in cassette version, of which there are many, please write down to our local computer shop, West Wiltshire Micros, and asked them if they'd like to put them on the shelves and if any sold they could pay us half. I don't think they managed to sell any.'

Easy come, easy go

Getting dumped by Acornsoft wasn't the last disappointment to dog the twins' hard work. The British Broadcasting Corporation had another waiting in the wings – an age-related issue. It all began so well, as Philip explains.

'Our computer studies teacher Godfrey McCann was a very clever guy,

| GCE 1-CSE / | | | SUBJECT | COMPAG STUDIE | | | | | |
|--|---|--|----------|------------------|------|--|--|--|--|
| ATTAINMENT | | | EFFORT | | A | | | | |
| BEHAVIOUR | B | | ABSENCES | | 0/48 | | | | |
| SIGNED. Jank. COMMENTS Should get a grack A when difficulty (but should not relate all gressin to graphus & games!) SIGNED. Jank. DATE 16/3/54 | | | | | | | | | |

– Mode 2 = 160 x 256, 8 colours per pixel – which took 20 κ of the available 32 κ of RAM – and we wanted to show what pictures could be displayed using

March 1984 and a complimentary school report, but with a warning!



but he frowned on our obsession with games and graphics, and didn't want to encourage us. However, he actually helped us make the almost impossible step up to understanding assembly language. In early 1984 we started writing an art package so we could draw and paint pictures on our bit-mapped BBC screen. What we really wanted to do though was to write games, but one of the challenges was to produce the graphics. People at this time were drawing mosaics onto graph paper and then converting them into the numbers that represented the correct colours on screen, an extremely time consuming exercise. The BBC had a good resolution

this. It doesn't seem exciting to people now, but back then, it was!

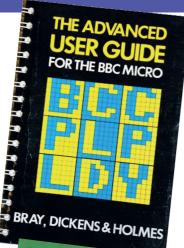
'We wrote it in BASIC, using plotting of pixels and line draws, but one function we really wanted was a flood fill – like we'd seen in *Qix*, an arcade game where you had to fill areas of the screen while

avoiding a bouncing line. We worked out the algorithm required – it was a tricky problem to solve. We coded it in BASIC and ran it, and after debugging we finally got it working, but it was incredibly slow. We wanted to publish

How good is your memory? Take the *Tellscope* test.







ASSEMBLY LANGUAGE PROGRAMMING for the MICROCOMPUTER

A sample of graphic design created with *EasyArt*.

this program, but a flood fill that took several hours was completely unacceptable. It was terrible when it occasionally leaked too, because you couldn't stop it.'

The teacher took a look at their code and said he could advise on how to make everything work much faster. A

week later he handed over
a bunch of pages of hand
scribbled assembler code. 'The
great thing about the BBC
BASIC was that it allowed the
writing of assembler within
the BASIC code. We typed it
all in, and there were so many
mistakes – he didn't have the
neatest handwriting either – and
it was very complex code.'

After two weeks of evenings trying to work out what each instruction was doing the twins

eventually resolved all the issues and completely debugged the code. The result was startling: 'The fill rate was



about a hundred times faster. Wow! We told Mr McCann that we'd got it working and how we'd worked out what all the three-letter acronyms meant. In some cases we'd actually misunderstood what the three letters stood for, but we'd understood what it did. He suggested we bought the Advanced BBC Programming Manual to learn to program assembler properly.'

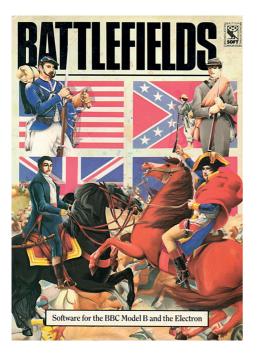
With their O-Level exams out of the way, Philip and Andrew tidied up the program, converted a few other routines to run faster, gave it the name *EasyArt* and produced some artwork as demo pieces. 'A particular favourite was the Kingfisher in Flight. (This inspired the eventual cover produced by Interceptor's in-house illustrator and graphic designer Robin Chapman.) A popular ITV programme at the time called *No 73* even used the picture of the Kingfisher to show that computers were capable of art too – something that many at the time thought impossible.'

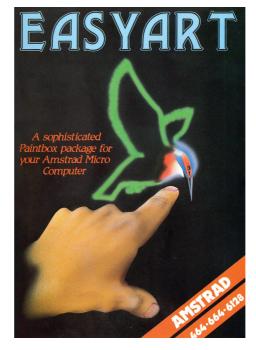
Of the various publishers who were sent copies, BBC Soft liked *EasyArt* and loved the demo pieces, so impressed in fact that the twins were commissioned to produce three loading screens for a game in development called *Battlefields*. And more was to follow. 'They wanted to commission us to write a book titled *How to Write Games in BASIC for the BBC* and offered to pay us a £1,000 advance on royalties of 7½% of retail price, which they thought likely to be £3.95. We thought

this was very exciting. And so we got planning...'

A lot of practical work went into the project, but it all came to naught, as Philip simply explains. Unfortunately, they discovered we were under eighteen and it turned out the BBC had a strict rule and would not sign a contract with minors, so the book was abandoned.'

One happy aspect of the process of creating *EasyArt* was that during the summer of 1984 the twins set about learning 6502 assembler code properly... and discovering the limitations, as Andrew outlines. It had very few instructions and being an 8-bit computer all variables and registers could only hold 8-bit numbers (0-255). The trick was in trying to do anything with such restrictions, so all praise to the programmers of games like *Revs* and *Elite*.'





So how far could 8-bit 6502 be taken? The cult film *Terminator* probably did not offer any sensible clues. 'Like just about everyone, we went to see Arnold Schwarzenegger in *Terminator*,' says Philip. 'In one of the scenes we see the vision of the backstreet, through the eyes of the Terminator. And there it is... 6502 assembler! So it looks like the Terminator was programmed in 6502 too. A fully autonomous relentless killing machine, based on 6502 code!'

The twins produced some artwork as demo pieces. A particular favourite was the 'Kingfisher in Flight'. This inspired the cover, left, produced by Robin Chapman, Interceptor's illustrator and graphic designer. The popular TV progamme No. 73 even used it to prove that computers were capable of art too something many at the time thought not possible. Philip later airbrushed his own version (page 65).

Right: inlay for Battlefields from BBC Soft, for which the twins made several loading screens. Below: Terminator in 6502.



Right: Founder Tony Rainbird with Anita Sinclair. photographed in 1986.

Burnt by Firebird

EasyArt had an almost-second life flash forward a bit. In 1984 British Telecom decided to get into the fastgrowing games software market and created the Telecomsoft division, which owned the new label Firebird established by Tony Rainbird. He really liked EasyArt and we agreed a contract for £2,000 in December,' Philip says. 'We had to chase several times to get the payment, and then in May and before the BBC version was published they asked us to convert it for the Amstrad CPC too, for a similar payment. They sold us three Amstrad CPC 664s; we kept one and sold the others to



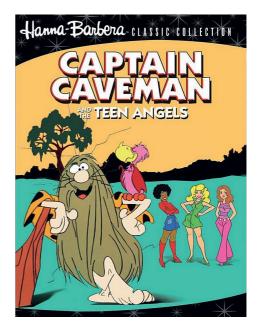
Ivan Link and Jon Paul Eldridge, friends and neighbours who were keen to write games as well.'

Second chance for Acornsoft

With a new-found appreciation of assembly language code, the twins felt confident enough to attempt an arcade game and in August and September 1984 looked for a suitable subject.

'We loved cartoons,' Philip says, 'and one of the popular cartoons of the time was Captain Caveman and the Teen Angels. He was known as Cavey for short, which we thought was a good name for a caveman. Games like Taito's Space Invaders and Midway's Galaga inspired us, only we wanted to set it in a fictional past with a caveman fighting off pterodactyls. Cavey would run back and forth along a log that bridged a ravine. Pterodactyls swooped across from side to side and dropped rocks on him while

he hurled spears back up at them. Of course, the more missiles he launched the more spears he had to avoid as they turned and fell back towards him.'



Yet another daytime TV cartoon show to bring inspiration for a game.



Philip and Andrew were faced with learning how to program the Amstrad in both Basic and Z80 assembler, which they accomplished. 'We completed the work by September 1985 only for Firebird to turn around and say they'd decided not to publish BBC software and that they no longer wanted *EasyArt* on Amstrad either! Thankfully they

Almost a case of counting chickens before they hatched, the twins' Datsun Cherry went unrepossessed when Firebird forgot to ask for the money back after not publishing EasyArt.

didn't ask for the money back, which was just as well as we'd spent it on a car – a second-hand silver Datsun Cherry. It was really very useful for all the business meetings we'd have to travel to and it made our school friends very jealous too.'



Andrew explains that *EasyArt* played a part as well as the use of assembler. 'To make the sprites, we drew them in *EasyArt*, then copied them onto graph paper and converted them to hexadecimal numbers to enter them into the code. It was a long-winded process. Thankfully, we were able to draw the background using *EasyArt* and found a longhand way to extract the data from part of the screen to include in the game. We got the game running at an okayish speed and sent it off to various publishers.'

Acornsoft was first back with an offer of £1,000 in October but with the proviso that the game run at a faster frame rate so it would look smoother. That did not appear to be a problem until disaster struck. 'Not being

brilliantly organised, we lost some of the source code files,' Philip says, shaking his head at the memory. 'We were so worried that the money wouldn't be paid and the opportunity to have Acornsoft publish an arcade game of ours would

Pterodactyls intent on Cavey's destruction gather threateningly overhead.



slip away.' Something had to be done and as it turned out the ill wind blew some good.

Andrew takes up the story. 'We used a program to look at the machine code (hexadecimal numbers of the code). It's called a Hex Dump program - often used to help hack code. So we had to hack our own code! We discovered the game was actually using only about 8κ of the memory, which was a relief

"We'd hoped to get a twofold increase in the speed, but we got about ten times the speed. It was crazy - and sadly completely unplayable."

> as there wouldn't be too much code to decipher. We suspected that the sprite routine would be one of the most critical because of the amount of instructions required to display all the pixels. We had a complicated piece of code that calculated

Sketching out Cavey's pixels from EasyArt.



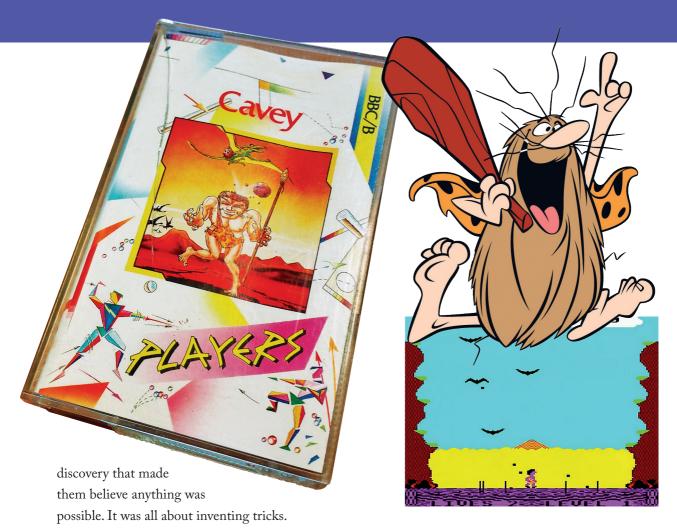
the location of the memory into which data had to be written to appear on screen. It was complicated because of the way the screen memory was laid out on the BBC. We found where this code was in memory, and then had to hack another piece of code over the top to do the same job but faster.

'We also had to use fewer instructions as it had to fit over the top of the existing code. Then we came up with the concept of a look-up table. Like a logarithm book from maths lessons, we'd pre-calculate the complex memory locations and store them in a very easy look-up table. The table itself didn't need to fit into the same gap in the code. We then rewrote the sprite routine to use this look-up table, and slotted it over the code of the old routine.'

'It turns out that this technique is very common theory in computing,' Philip adds. 'But we'd never covered it in our BASIC computer studies lessons and our assembler book only covered the instructions and not programming techniques.'

'So we ran the game with the new sprite routine... and it was amazing,' Andrew exclaims. 'We'd hoped to get a twofold increase in the speed, but we got about ten times the speed. It was crazy – and sadly completely unplayable. It was hilarious. We could have as many pterodactyls as we liked and it was still too fast to play!'

They had to put delay code into the sprite routine to slow it down, a



'It also taught us to be more organised in backing up source code and assets,' Philip adds wryly.

Unfortunately, once again, their hard work met with defeat. Pleased at what they had achieved with *Cavey* they resubmitted the game, but Acornsoft went quiet until a letter arrived in March 1985. It stated that the company was undergoing reorganisation and that at the current time they would not publish the game, but since they had paid for it, they wanted to hang onto it and perhaps publish it later.

However disappointing the outcome for *Cavey*, the experience gained while

working on it was to bear valuable fruit, as Philip begins to explain. 'So we'd discovered this extremely fast way to move sprites around the screen, so fast that it could compensate for the slow speed of BASIC. And we thought it would be possible to write arcade-style games in BASIC, but with machine code sprites. Having had the pain of creating sprites using graph paper but having written EasyArt, we came up with the idea of a sprite editor and a library of machine code sprite routines that people could include in their games. The editor had to have a number of definable sprites, and we wanted them to be any size a game

In the event, Acornsoft sent the twins a letter of release for the game so that they might seek an alternative publisher, but in the time lost the BBC games market had all but died and interest in Cavey was negligible until Interceptor Micro's agreed to publish the game under their new budget Players label. Cavey was released in October 1986 at the low cost of £1.99.

Hard critics and night owls

In November 1985, when the twins were in the Lower Sixth, the maths department was given three BBC



Concentrating on coding late into the night, and sometimes right through till dawn. Micros. 'Our maths teacher Adrian Green joked he really didn't know what to do with them - and computing wasn't even on the curriculum. But because we knew how

to program we got permission to set up a school computer club at lunchtimes. We'd set up the computers in the maths room and we'd play on them, and around six to eight other lads came along.'

However, mindful that the machines were supposed to be used in an educational manner, Philip and Andrew worked out small things to teach the others, often preparing strings of code in the evenings to take in, load up and explain to their 'pupils' how it worked. 'It was fun and we all learnt from each other,' Philip remembers. 'We also used the group for a bit of focus testing on Cavey and some of our Model B games, but found our fellow students were harsh critics. We'd load up games we'd written and they'd just rubbish them, saying how they were inferior to the best games of the time. It was demoralising, but just made us go away and try harder - we weren't going to be put down like this!'

Perhaps unsurprisingly, homework took second place to writing software and games. 'Mum and Dad disapproved of us still being up when it was school in the morning. They often popped in the room at around 10:30 with coffee or hot chocolate for us, and said, "We're off to bed now, please go to bed soon." But we often worked through until the

developer might want, from tiny bulletsized sprites to ones that took up quarter of the screen. Game developers might want these larger ones for setting up backgrounds, like the cliffs in Cavey.'

Over to Andrew: 'We thought it would be useful to link several sprites to create animations. In that way drawing things like the pterodactyls or a running man would be really easy to check. We even came up with a rotation system to auto-generate a sprite as a rotation of

the previous one. This was to save game developers time when doing top-down games where sprites can be seen to turn or sprites like the Asteroids space ship.'

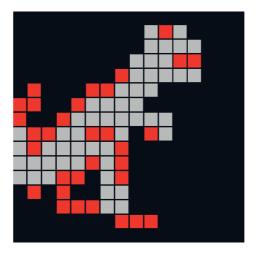
Andrew points out that a lot of thinking went into the editor. 'When it came to the run-time sprite routines, we wanted to come up with a very simple-to-use instruction set. Within the code we wanted to handle all the edge cases fast and elegantly - things like edge clipping and printing in different



early hours – sometimes to seeing the sun rise and hearing the birds wake up. It's not that we aimed to stay up late, but we set ourselves tasks to do on the games, and things on computers always took longer than we expected. And when we were in the zone coding, we just didn't notice the time. There were many occasions we suddenly said, "Hey, there's cold coffee on the desk!" completely cold, like it had been there unnoticed for several hours.'

modes. It could do flipped sprites, have a transparent colour; we even added four definable windows that sprites would be clipped inside. We added a collision calculator so developers could quickly check if one sprite was touching another. We even had a scroll command to shift a section of screen in any direction. And last, you could copy the section of screen to memory, print the sprite, then rub it out and copy the older screen memory back.'

Philip and Andrew called it *Sprites Plus*, the positive modifier to emphasise that it also handled all the memory management, holding all the sprites in one compressed file with the code embedded. That meant developers didn't have to worry about where it all was – they simply loaded one file from their BASIC game and *Sprites Plus* gave them all this functionality. By January 1985 most of it was in place and working, so the twins decided to develop a game at the same times as completing the editor to use as a test case.



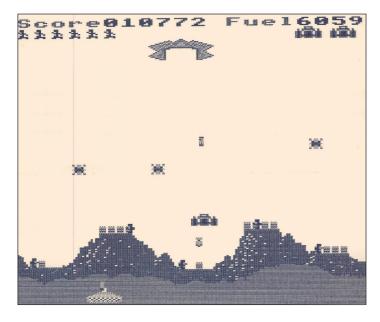
A 256-pixel dinosaur sprite as seen in a sprite editor.

A cross between *Lunar Lander* and *Choplifter*, in *Rescue Mission* the player controlled a spacecraft descending under gravity from its mother ship at the top of the screen. The craft could thrust up, left and right, with a degree of inertia to control. The object was to touch down gently on five landing pads, rescue the men running back and forth and return them to the mother ship. There were additional threats and problems to contend with: barrels

Alligata Software was one of the few remaining software houses putting out games for the BBC, but the company rejected *Rescue Mission* as being too similar to their earlier *Lunar Rescue* game.



cluttering the landing pads had to be bombed, but the player had to be careful not to blow up the men awaiting rescue; there were airborne mines that drifted onto the screen and with their random movements made the airspace dangerous to manoeuvre through; finally a tank trundled across the bottom to fire a missile vertically beneath the craft, forcing the player to swerve.



A dot-matrix printout of a level of *Rescue Mission* shows the large tank roling along the base ready to fire at the lander craft. 'Most of the big publishers rejected Rescue Mission, some citing that the market wasn't there for BBC games, unless they were of very high quality. In April Beebug offered us £150. We decided reluctantly to accept this as the best offer on the table and it was published on the cassette and disk on the front cover on the August edition,

but we never received any copies and couldn't find one to buy,' Philip says, shaking his head.

But the bigger prize now was to get Sprites Plus published. 'We sent it to all the usual suspects still publishing software on the BBC,' Philip says with a laugh. 'That was Acornsoft, Alligata, BBC Soft and Firebird, and it was they who came back with an offer to purchase it for £2,000. They also wanted a version for the Electron, and sent us one to test it out. From a software point of view it was identical to the BBC but with a half-speed processor – what a dumb idea. Anyway, we rewrote the demo to take account of the reduced speed and resubmitted it to them. Sadly over the summer of 1985 Firebird changed their minds and said they were no longer

BEEBUG

interested in any BBC software. This was the same letter in which they also cancelled *EasyArt* on the Amstrad CPC. Two rejections in one. We were gutted. They were the last chance because everyone else was pulling out of the BBC B market.'

With evident regret, having already coded *EasyArt* on the Amstrad CPC at Firebird's request, the twins thought it was time to move over completely to the Amstrad. 'We relegated our BBC to being a game playing computer only. We still loved the games on the BBC.'

Teaching the Panda to speak

During the summer of 1985 the Oliver Twins converted *Sprites Plus* to join its companion *EasyArt* on the Amstrad CPC. They also taught themselves Z80 programming from a cheap £3.99 Z80 Pocket Guide. And they managed some relaxation. 'It was a hot summer and Jon Paul Eldridge, our friend who'd had one of the Firebird Amstrads off us, had a large heated outdoor swimming pool and we used to be in and out the pool, then onto the computers for a while, and then back in the pool. Fun times!'

In September, having digested the

cancellation of the Firebird contracts, Philip and Andrew sent new copies of *EasyArt* and *Sprites Plus* to all the publishers they could think of. In its conversion to the Amstrad (and possibly as a rejection of all that had gone before) *Sprites Plus* had undergone a transformation and been renamed *Panda Sprites*. The reasoning behind this odd title is simple enough, as Philip explains.

'It came from our initials – Philip and Andrew: P and A – see. PandA.'

One of those who received *Panda*Sprites demo tapes was Richard Jones of Interceptor Micro's in Tadley,

Hampshire. The next day the man himself telephoned to ask if they would be at home later as he wanted to pop over for a talk.

'He turned up at our parents' house a few hours later in a gold Rolls-Royce!' Philip says, still able to relay the amazement they both felt at this Beebug Publications' letterhead logo, opposite page, was somewhat better looking than the curious device used for the magazine, left.

The twins' neighbour and friend, Jon Paul Eldridge was to supply the twins with game music in later months. His family also had a swimming pool, which allowed for some cooling off between coding stints before getting back to programming.







Richard Jones with his golden-hued Rolls-Royce outside Interceptor Micro's. He came to the rescue of EasyArt and Panda Sprites.

sight. 'He was quite the young entrepreneur, aged nineteen. He had teamed up with his school friend Jeff Minter to sell games. He'd done the selling while Jeff wrote the games, although by that point Jeff had gone his own way and founded Llamasoft.

We had a "meeting" at the kitchen table and went through to my bedroom to show him all our various games on the computer. He said he was very impressed and he'd like to publish EasyArt and Panda Sprites for the Amstrad CPC.'

464.664.6128

Interceptor promoted Panda Sprites as a Game Development Tool for the rapid production of games by anyone who could write in BASIC, one of the first of its type. The details of the deal are hazy, though Philip thinks Jones agreed to an advance against royalties of £250 for each program. In the following week Philip and Andrew visited Interceptor's offices to sort out the contract, deliver masters and go through instructions for the packaging. In addition to publishing utility software the company ran a tape and disk duplication business, a print shop and associated graphic design studio. They also manufactured dual-size cassette tape cases under the Compact Case Company brand (see side panel on page 44). As Philip recollects, it was interesting to see the factory alongside



the offices. They had a production line of people packing and from a master they would be able to get production stock out the door in literally a few days, all made onsite. It was quite an impressive little set up.'

Interceptor also provided Philip and Andrew's first taste of hard business tactics in operation and they soon learnt that Richard Jones was all about margins. 'He controlled everything and looked to save money everywhere he could,' Philip says. 'For instance: when we turned up in reception that first time, we were shown to Richard's office-cum-boardroom. The receptionist asked if we'd like coffee. We said yes, thank you, and she said, "That will be ten pence each. Sorry but Richard refuses to pay for teas and coffees."

Richard was clearly very rich so we were staggered that he took this approach.

And when it turned up it was only instant coffee in plastic cups!'

The twins believed that the £250 Interceptor was paying them for games was an advance, but they never saw any further royalties.

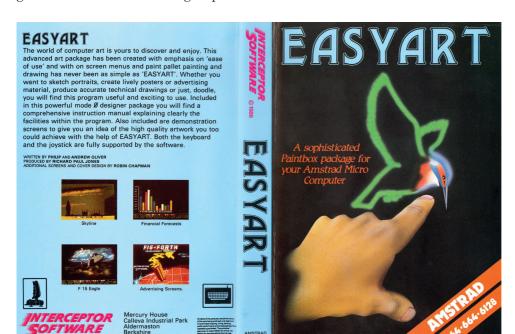
Having published *Panda Sprites*, it was time to consider using it themselves for the practical purpose of creating games and with the continuing emphasis

MTERCEPTOR MICRO'S

on the educational benefits of computers, Philip and Andrew looked in that direction, though the curve began in another way entirely.

'We were used to listening to the horrible squealing of data loading and we used the same tape deck to listen to music while working,' Philip says. 'So we wondered whether it was possible to digitise music, store it in the computer and then play it back. We wrote some code to "listen" to the audio-in port and another routine to pass this data straight to the sound chip at the same speed it came in. It was crude, but you could just about make out what was recorded—'

All about margins, saving costs was everything at Interceptor Micro's, with its annoyingly redundant apostrophe.



Utilising Philip Oliver's 'Kingfisher in Flight' idea, Interceptor's designer Robin Chapman created the inlay illustration for EasyArt.

All in a loop

The twins were fascinated to see how the end product of their programming endeavours was actually manufactured, as Philip explains. 'The process started by removing the thin magnetic tape from the master cassette. This was then loaded onto a reel that could loop it continuously, which was set alongside a massive spool of tape that probably measured several miles in length if uncoiled.

'When everything was set in motion that master was magnetically copied

Audio and data tape cassette duplication is a process all but consigned to history's trash can.



repeatedly onto the spooled tape. Four reels - two on the original looped tape and two on the unrecorded tape - then spun up to incredible speeds, making hundreds of copies onto the massive reel. This took around 20–30 minutes per reel. The large duplicated reel was then moved onto a machine that pulled the leader tape from a blank cassette and spliced in the end of the recorded tape from the spool. It then spun it onto the new cassette within a second or two - again at incredible speed. The machine then slowed down, cut the recorded tape from the spool, spliced it to the other end of the leader tape of the blank cassette and out dropped a duplicated tape.

'A production-line person then attached a sticky label and threw it down the production line to the next person



who put it in a case with the cassette inlay. That went into a cardboard box ready for distribution. Each cassette took a few seconds to make. It was incredible to watch.'

'It also took a lot of memory,' Andrew interjects.

Inspired by the Speak & Spell toy, they wondered if they could record their voices instead.

'We plugged in a microphone and spoke into it to see how that sounded,' Philip continues. 'While it was a little

scratchy and muffled it was definitely understandable. We'd made a computer talk! Wow! What a revelation. It took quite a lot of memory, but we could record multiple words or numbers and string them together to create longer dialogue.'They commenced with numbers, recording zero to nine. It

worked quite well, but there were a few problems. We wanted it to say "thirteen", not "one—three". But we could just record "thir" and "teen" and by saying "eleven" and "twelve" we'd get all the way to twenty. If we recorded "twenty" we could get to twenty-nine, and so it went on until we could say any number into the thousands.'

'And so,' says Andrew, 'with the code controlling the playback recordings, we could construct speech that could count from zero to thousands all from component parts. It didn't take too



much memory either as each recording was very short. We wanted to bring this amazing new technology to a game and this inspired us to write a very simple maths quiz game for young children with big, bold colourful numbers – but that spoke!'

'We added other simple English

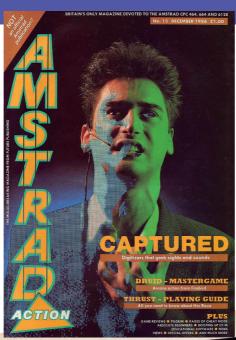
commands,'Philip continues, 'like "what is", "plus", "minus", "multiplied", "by", "divided", "correct", "wrong", "try again" and "your score is". When all strung together by the code, we were able to make a really fun, challenging game that spoke... as good as Speak & Spell. Now we had something worth publishing.'

They called the game Magic Maths, sent it out on the rounds, and Richard Jones was very quick to come back. Interceptor was about to launch a new budget range of software at £1.99 under the Players label and he wanted to publish Magic Maths in the first batch of games. 'We were very proud of our speech system and we used it in all our future 8-bit games. Very recently, on social media, someone said we'd ripped the code straight out of Amstrad Action,' Philip says indignantly. 'This person said



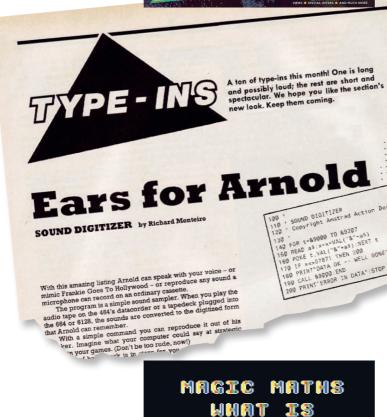


About nine months after the release of the speaking clock and maths game, *Amstrad Action* published a 'first' type-in listing for digitized speech for 'Arnold'.



that our code was identical to the one published in the magazine.'

In fact the social media commentator was in error – indeed, it's possible it was the other way around. The Ears for Arnold sound digitizer code appeared in issue 15 (December 1986) of *Amstrad Action*'s 'Type-Ins' regular feature, whereas Players released *Magic Maths* with its digitized speech nine months before, in March 1986.



MAGIC MATHS
WHAT IS
3 + 1
4 /
SCORE 7 / 1
TIME 10 × 0

In an era long before smart phones to inform forgetful people of the time, for those without wristwatches BT's Talking Clock was a useful service, and after *Magic Maths* it seemed logical to follow up with *Magic Clock*. Philip explains how they went about making a speaking clock game. 'As before we needed all the spoken numbers, but then we also needed sound bites like, "minutes",



"hours", "o'clock", "half", "quarter",
"to" and "past". Other dialogue was to
make the games fun, so, it would ask
questions vocally like "set the hands to",
and then "well done", "now set...". Since
the clock face wasn't using much of the
screen space we needed a landscape to
frame it and decided to copy a classic
cuckoo clock. We even added an
animated cuckoo that popped out the
doors at the top.

'It was a quick job to create this, good use of *Panda Sprites* and the talking technology and therefore easy money... well, £250 for the two of us over the Christmas holidays.' Philip pauses in thought a moment. 'But what we really wanted to do was to write proper arcade action-style games.'

The clock's ticking...

Back to the drawing board, so to speak, and Killapede was the first arcade-style action game to emerge. 'We were coming up to A-Level mocks and playing games on our BBC,'Philip says. 'It seemed like Acornsoft was having great success by directly copying arcade games. We thought that to make an obvious copy of Centipede - a game we loved in the arcades - would be too cheeky and very uncreative, so Killapede had similar gameplay, but new graphics and new bugs, well, insects...'he smiles broadly, "...although it's possible a couple of bugs might have slipped through too!'

They wanted to add speech to the game but couldn't afford the memory it would eat up and there didn't seem to be anywhere to put it – other than at the front. 'We announced the game after it loaded: "Welcome to Killapede". Not only did this give a fun, novel first impression, it also acted as a call out.

Interceptor Micro's budget Players label issued tape-based games for various 8-bit platforms, priced at £1.99. The colourful packaging concept was studio manager Michael Wood's design. Players was in direct competition with budget labels Mastertronic and, from 1986, with Codemasters. The company fell victim to the decline of computer games and the rise of cartridgebased consoles in the early 1990s.

'At the next stroke it will be six fifty-six precisely... pip... pip...beep!'

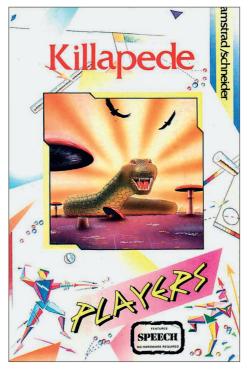




New-style bugs in Killapede, the 'talking' game.

Below: among the scores of preserved notebooks and other documents relating to their games details of Excalibar's 'cast list' of seen-from-above characters.





Because they took between ten to fifteen minutes to load, people often set a game loading and then went off to do something else. So, this announcement when the game had loaded was very useful. It became a bit of a signature thing we'd put in all our games from that point onwards.'

The twins threatened to sell *Killapede* to another publisher if Players didn't offer more than £250 for the game. They didn't, so reluctantly they accepted the sum. 'But we wanted to find a publisher that would pay us more for our games,' Andrew says adamantly. It was still to be a while...





Philip picks up the thread. 'We had to be more ambitious with the next project and target a full-price game with a publisher that paid properly. So at the same time as studying and taking A-level exams we designed and prototyped an original game called Excalibar based on the legends of King Arthur and the Knights of the Round Table.'

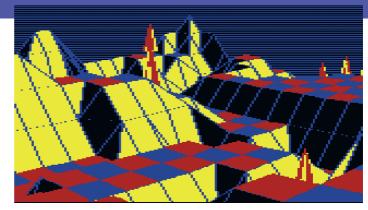
The inspiration came from Gauntlet with its top-down view of gridbased rooms, The Sentinel's procedural landscape and a Dragon 32 text-based game called Quest, set in a medieval forest. 'We devised a game for one or two players acting as knights travelling around the ancient Kingdom of Camelot in search of fabled Excalibur.

| 3 | GR | APE | LING | 5 H C | onks. | 3 | 15 | 45 |
|-----|-----|-------|-------|-------|-------|------|------|-------|
| 8 | LE | ATE | IER . | JERK | CINS | 6 | 15 | 9.0 |
| 9 | CH | 1 I A | I MAI | I L | | 2 | 25 | 50 |
| 10 | PL | ATE | AR1 | 10R | | 2 | 50 | 100 |
| 1 1 | SH | HEL | DS. | | | 6 | 3 | 18 |
| 13 | LD | ING | BOWS | 3 | | 3 | 1.1 | 33 |
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| 15 | RA | TIC | SHI | | | 6.5 | 4 | 26 |
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| | | | | | | | | |
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| | | | | | | | | |

Because it was procedurally generated, the landscape was massive, consisting of forests, clearings, roads, rivers and bridges with small hamlets and villages and the occasional castle. As players approached a settlement, procedurally generated names appeared – an idea inspired by *Elite's* planet naming system. Discovering and looting treasures along the way, players had inventories and were able to hold a weapons in each hand to battle enemies.'

Andrew joins in. 'We planned a save-point system, whereby a long code (about 30 characters) was generated and encoded all the information about the players' positions and inventory. Players could write this down at the end of session and then pick up where they left off another day. Even with the limited memory, around 32K, we were able to generate almost infinite landscapes, which at the time was unheard of.'

Development of this most ambitious Amstrad project continued around revision and exam demands from March to July 1986. By the start of August they had a demo and approached Firebird, publishers of *Elite* on all platforms (except for the original BBC version).



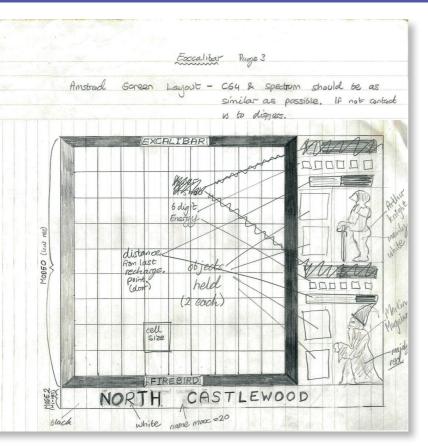


The *Excalibar* demo went down so well Philip and Andrew were offered an advance of 10% on estimated royalties of

Other than the copious notes the Oliver Twins kept the game's principal theme, below... with some interesting spelling here and there - the only clue as to how Excalibar might have appeared comes from looking at the three influences: arcade Gauntlet. left, the procedural landscapes of The Sentinel, above, and the text adventure Quest, for the Dragon 32, above left.

OLIVER

Excalibar Page I King Arthur & Merlin storya The Master (an evil madician) is wreaking havac on the Island. Most of the inhabitance have left but a few induding king. Arthur and Merlin remain in the hope of evertually defeating The Master. But the Muster is prepared - he has placed evil monder generators throughout the Island. Gratings which bring ghosts, Sculls which omit skeleton warriors and which give entrance to zombies. He has set puzzels and problems, smasted bridges and set tree his dreaded drugors. The task is great but between them, I that and Merlin believe bley can win!



The Amstrad screen layout for *Excalibar*.

£20,000 for the Amstrad, Spectrum and C64 versions. At last, it seemed they had made the longed-for breakthrough to the big time.

But they hadn't... not yet.

'We predicted it would take at least six months to plan and write and would be released full price in a large box for £11.99,' Philip says. 'But having been let down before by Firebird we were cautious and waited for a contract before proceeding.'

They couldn't know, but the wait was to turn out to be fortuitous. Meantime, it was summer 1986, A-Levels were done, school was out, university beckoned. Both twins were committed to studying electrical engineering, Philip

at Shrivenham Defence Academy in Oxfordshire, Andrew at Birmingham University. Philip even had a scholarship awarded by British Aerospace that would pay him £12,000 a year while he studied. 'But we wanted to write computer games,' he says simply. 'We had a final school meeting with Terry Hall, head of sixth form, and explained that we really weren't keen on going to university. He suggested to our parents that we take a year out "to get it out of our system".'

Amazingly, their parents saw the sense in it... or perhaps they bowed to the inevitable. 'They sat us down,' Andrew says, 'and told us, "We've thought about the year out idea and we're happy for you

"They said it was a passing phase and would soon fade. We knew better...we believed that games would be bigger than TV, music and films."

to do this provided you get serious about the business side of this. And then Dad added that if we could earn more than him in the first year we wouldn't need to go to university. We never asked what that was, but he had a good job. So to us, we knew we just had to earn as much as possible to pursue our burning ambition to write computer games for a living. We didn't want to do anything else.'

With a laugh, Philip says that of course everyone thought they were mad.

'They said it was a passing phase and would soon fade. We knew better. Even then we believed that games would be bigger than TV, music and films. We knew that some day the graphics and sound would be of cinematic quality and the audience would grow massively. We were just running Moore's Law equation mentally and couldn't see why the growth shouldn't keep doubling. All this may have sounded fairly arrogant at the time, but we could see the vision and we were excited!'

And the Firebird contract for all that loot was just around the corner.

It was time for Philip and Andrew to set up their own business, but they were unsure about how to go about it. This was the era of Margaret Thatcher and one of her Conservative government's manifesto promises was to tackle the massive unemployment figures Labour had left behind. One initiative was The Enterprise Allowance Scheme' - Can't get a job, why not start your own business? Instead of £27 a week dole money,



people could sign up for an increased £40 per week.

'We didn't do it for the money, we just thought it an excellent way to learn the steps needed,' Philip says. 'And the feeling of being on the scheme made it feel more legitimate to be starting a company so young.

'Bizarrely, we had to sign on as unemployed as the first part of the process, since you couldn't apply for the scheme unless you were unemployed for at least a few weeks. So we had to

Waiting for Firebird, Excalibar was placed on hold while they worked through the **Enterprise Allowance** Scheme.

Below: a telling extract from the Oliver Twins' business plan.

: COMPLEX COMPUTER SOFTWARE be starting Computer equipment already purchased. We will Name finance and therefore no large

the business from home Financing :

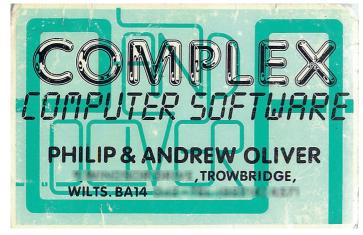
Research

At present many people believe that computer games are just However, from the interest gained during market research and an years, we have confidence that the games market is with a passing craze. LIS will for many years to come - although the style of inevitably evolve. People have also pointed out liquidation small computer software houses have gone into or have been bought out. But we have seen, and have been able to forecast, the problems that have down fall of these companies, and learnt from them. understand it is because the managers do not fully not and do market, as they are of the wrong age will which games appreciate the features and styles of appeal to the mass market.

Ghostbusters was a high profile game based on a top boxoffice success. What the twins needed was something of similar impact with which to make their mark... but what? And how to afford a property like it?

start by going to the dole office and filling in the forms, which didn't feel a great start as we considered ourselves bright, entrepreneurial game developers. Nevertheless, we drove ourselves there, turned up to stand in a queue with many "unemployed people" and said "we can't get jobs". A dumb system, but government departments need their figures and this scheme was all about taking people off the dole. We were hardly going to challenge the system at age 18.'

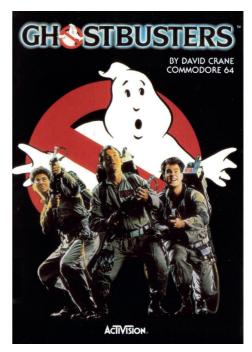
On completing the required number of weeks on the dole the twins applied for the Enterprise Allowance Scheme and filled out the forms of which the most important field asked the nature of the intended business. They



The printer messed up the cards, the ink never set and they smudged. When the twins complained he blamed it on their poor design. In the event Philip and Andrew hardly needed to use them.

had to attend a course at Bath Self-Employment Project, lessons on basic book-keeping, producing a business plan and cash flow projections. They had also to come up with a trading name, produce business cards, letterheaded paper and open a bank account.

'Looking back on it, it was a great



exercise,' Philip reckons. They decided on the name Complex Software, 'Because we wanted to say that what we were doing wasn't simple – game design and coding is both a dark art and complex. Lisa, a family friend, who was studying graphic design did us a great logo based on our idea of solder on a circuit board.'

While conducting their Enterprise Allowance Scheme studies, Philip and Andrew set out to devise a pitch for a game that would be a definite bestseller in time to attend the Personal Computer World show (PCW) held in London every September. 'We'd seen how successful the *Ghostbusters* game was and that it was clearly down to a famous licence,' Philip says. 'People knew instantly they saw it on the shelf what they were buying, it was high profile, suggested high quality and a fun game about catching ghosts. It was

obvious why it was selling so well. '

The problem was, the Olivers couldn't afford to buy a licence, and they wouldn't have known how to go about buying one anyway.

'What we needed was a brand not owned by anyone that would get the same reaction from players,' adds Andrew. 'We came up with Robin Hood. Nobody owned it, the player would control Robin and he'd have to storm a castle with a trusty bow and arrows. And the main objective? To rescue Maid Marion, of course, and along the way steal loot – to give to the poor obviously! It all seemed very clear to us. It ticked all the boxes.'

Meanwhile the business plan lessons were proving to be something of a pain. As Philip points out: 'The advisors seemed to know only two business models: running a shop or market stall or making physical goods on a production line. The idea of writing software locked away for many weeks or months with no stock, then only being able to identify a handful of potential customers – the publishers – and then selling a single disk for a royalty with an advance... It really didn't fit any of their ideas of running a business.'

However, Bath Self-Employment Project leader Bruno Elliott didn't waste an opportunity to plug the scheme's benefits when he told a newspaper reporter chasing up a story on the twins, 'They were in a position to go to college, but wanted to make money immediately rather than delay for three years. They had a bit of a tussle with their parents, but they came here and found out what they needed to know to set themselves up. They highlight the way the project can help young people.'

Philip shakes his head. 'They had difficulty understanding what software was. We always explained it was no different to being an author, but they didn't consider that a business.'

But business could not wait. It was September – time to drive to London to the 1986 Personal Computer World Show at Olympia and pitch the Robin Hood concept to as many software publishers as they could. Of course they might hope, but they had no idea how their business plan was just about to explode.

Next: Part Two



Robin Hood beckoned, ready for the 1986 PCW Show in London.



part two

Dizzy with Darlings

'The Only Way Is Up' - Yazz.



BMX Simulator and Red Max made an impressive introduction to the Darling brothers and Codemasters.



David and Richard Darling, on television in 1984.



eptember 1986: 'Our friends were all heading off to their various universities and we were now at home living with our parents, in our "year off", and we had to make big efforts to create some games that would earn big money.' Philip looks to Andrew, who adds his bit.

'Full of enthusiasm and ready to take on the best, we started contacting every leading publisher about our latest game ideas and, as Yazz said at the time, "the only way is up!"'

The only way 'up' in September was to London, to Hammersmith and the





Olympia exhibition complex, which was hosting that year's PCW show. As Philip says, 'We decided to propose a brand new game and pitch it to new publishers there, hoping that Firebird would come through on Excalibar – so this was just a backup plan.'

They arranged meetings with the various publishers they knew. 'But there were many others we'd never heard of. Each had a small booth and meeting area. One of these was very small indeed, just a table and three walls adorned with posters for new games – Red Max and BMX Simulator. Two young lads, about our age, manned the booth.

The two 'lads' were David and Richard Darling. 'We didn't know at the time, but they'd had great success writing games for Mastertronic, the leading budget publisher,' Philip says. 'Now they wanted to go it alone and start their own publishing company - Codemasters. Andrew and I were impressed that here was a publisher where the owners were game developers and understood what it took to write a game. We showed them our portfolio of games - just the boxes, but they were



days a week, eating while we worked. During the periods when we were both awake one had to prepare other used the computer.'

at the time. It sounds obvious now,

but in those days this was new stuff,"

Andrew insists. 'We wrote a map editor

into the game - we weren't sure how big

this castle would be and simply fitted

hit a key and call up some sprites, place them around the screen and save the

map data. We could load the game up

each day, load the data file, which loaded

all the sprites, rooms and positions, and

we could continue growing the game,

adding more rooms and features as we

went along.'

in as many rooms as possible in the memory – so we could play it, and then

Mastertronic, but fell foul of their former their code on paper, while the boss when they set out to compete. Panda Sprites came into its own again and allowed Philip and Andrew to develop a game at a faster pace than almost anyone else was doing

The Darling brothers

had written games for

pioneer budget label

impressed by all the games and utilities we already had published. We then said we were just about to start a new game called Super Robin Hood. We brought out a small, mostly handwritten, design with some sketches and asked what they would pay for a game like this.'

David Darling's answer stunned the twins – £10,000.

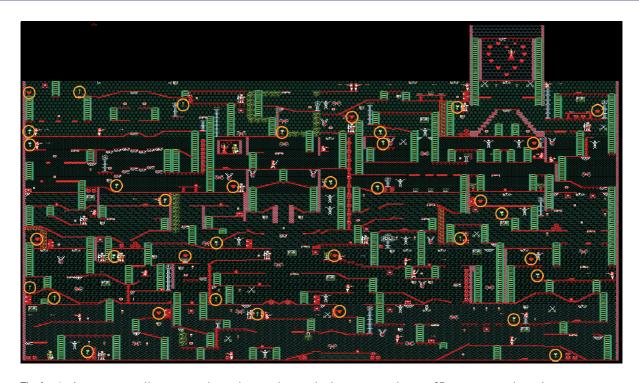
'Hopefully, the shock didn't show too much in our expressions! We tried to keep ourselves composed and said okay, yes, we'd like to write this for you and we'll have it done in a month and you can get this in the shops for Christmas. We left with the understanding that we had a verbal commitment from them to publish the game... all we had to do now was actually write it - and in a month!'

And that wasn't as simple as it sounds, not just the timescale but the twins didn't really have much in the way of development kit - they only had a single Amstrad computer between them, so it was a case of sharing, as Philip explains. 'We were still working in a bedroom in our parents' house and our schedule called for us to be programming for twenty-three hours per day, with two breaks of half an hour to allow the machine to cool! We worked in shifts of eighteen hours a day, seven

"We worked in shifts of eighteen hours a day, seven days a week, eating while we worked."

It proved to be a very fast development method for a time when most programmers were still drawing sprites and map layouts on graph paper and then manually entering the data for all the coordinates. It was a really easy, fun way of making a game where we were playing and adding as we went. It's





The Amstrad map the twins were not sure how big the castle where Maid Marion was held would be and simply fitted in as many rooms as possible in the memory.

all very simplistic, but with very little memory or processing speed everything had to be. But it worked, very nicely. Our friend Jon Paul produced some original music, which he did a great job of – we were rubbish at music composition.'

They made it within the month deadline, polished, bug-free, ready to take to Codemasters at the offices in Banbury. At the time, this was a small unit on an industrial park, not unlike

those of Interceptor, though a quarter the size. The twins remember the all-pervasive smell of coffee in the air from the adjacent Mellow Birds factory. Younger sister Abigail Darling manned the front desk and off a side corridor were three small rooms: a stock room, a room David and Richard Darling shared, and one for father Jim Darling, who looked after sales and distribution. When expansion forced them to look for bigger premises, the Darlings bought a farmhouse at Southam, about five miles from Royal Learnington Spa.

Reaction to Super Robin Hood was highly favourable, but the news that the Darlings delivered next was initially less encouraging. 'They dropped a bit of a bombshell, they wouldn't pay us £10,000,' Philip says. Instead they told the boys they would pay 13.5p per copy

Who you gonna call? For music and sounds Why not try Jon Paul.





C64 platforms, for which they paid the Oliver Twins an additional 5p per sale. Philip estimates that *Super Robin Hood* eventually earned them in the region of £20,000.

The twins received lots of press stories surrounding the success of *Super Robin*

The evil Sheriff of Nottingham has imprisoned Maid Marion in that castle over there. Can you rescue her? Super Robin Hood Amstrad title screen. Below: It was important to emphasise the voice synthesis, particularly for a budget-priced game.

sold. 'Now this was very disappointing. This sounded like Richard Jones at Players, something we were trying to move away from. Clearly we expressed our disappointment, but they were quick to point out that the first production run would be 20,000 copies, and they were going to produce this many as they were sure they could sell them easily.'

A return of £2,700 for a month's work didn't sound too bad, so Philip and Andrew agreed and signed the two-page publishing agreement there and then. It was the start of an astonishing runaway success story... for both sets of brothers.

The art and production for *Super Robin Hood* went ahead apace and the game hit the shops within a fortnight in November 1985. Then came the nervous wait for press reaction. 'People loved it!' Andrew says happily. 'It went straight to number one within a month! It was great to go into shops and see our game at the top of the charts.'

The royalties started to flow in and did in fact exceed the promised £10,000, especially when Codemasters ported the game across to the Spectrum and

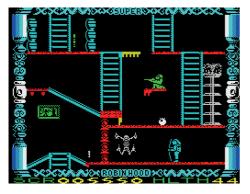
Hood. Journalists particularly liked the fact that their mother Jenny provided the voice for Maid Marion. With the chuckle of hindsight proving an adolescent boast true, Philip recalls Trevor Porter of the Wiltshire Times offering sage advice as he left. "Make the most of it lads, it won't last long," he told us. He was so clear he thought, as did







many at the time, that computer games were a passing fad. We were both quick to jump in and answer, "No wait, stop! You've got it completely wrong, this is going to be the biggest entertainment $medium\ ever-it'll\ be\ bigger\ than\ TV$ and films in the future. Just imagine





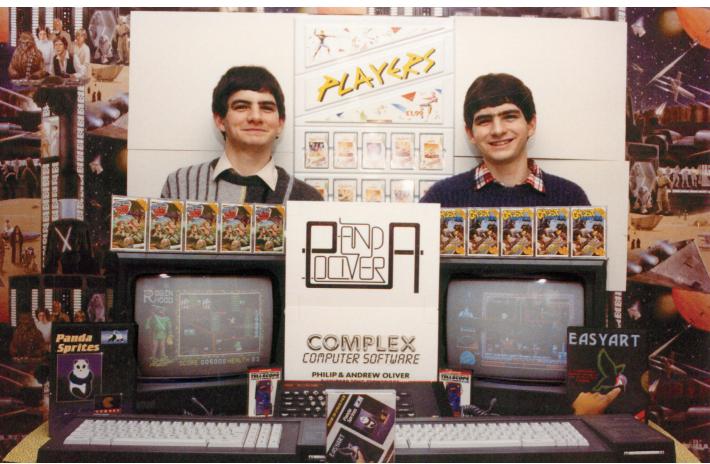
Amstrad Action - a positive review for Super Robin Hood.

Left: screenshot from the Spectrum version by Mark Baldock.

when the graphics and sound get better, rather than just watching something like a James Bond film, you could be playing as James Bond with the same quality of visuals and audio only it's your choice what to do and how to drive the story forward." He laughed and walked away. We really wish he'd have written that up. Imagine how absurd that would have sounded to everyone reading it!'

How do you follow up a hit?

There was no faulting the young Oliver Twins' ambition. They had put hard work behind every project through thick and thin but yet remained aware of the







Right: The popular Maxam Assembler, ported from its BBC incarnation, was available in four versions: tape, disc, ROM and cartridge. Assembly language programs could be entered either using the built-in editor, or 'inline' in a BASIC program and then assembled by Maxam.

Left: Philip and Andrew set up a display in Philip's bedroom in February 1987 to create a photo to hand out with press releases – nice wallpaper, lads!

Codemasters' innovative packaging included four screens on the reverse, so that prospective buyers could see what they were getting — an important part of the budget-game marketing strategy.

pitfalls of success. Naturally, the Darlings wanted more games from them... and quickly. Philip recalls his and Andrew's feelings. 'Having success once might just be luck, but we did not want to be known as one-hit-wonders. Often people who have success once simply





got lucky. Some know this, are humble and grateful, but sadly many become arrogant, cocky and try to convince people they can do it again easily. We really wanted to prove to people we weren't in that second group.'

And so in November they became a two-Amstrad family, this time a CPC 6128 with a second Maxam Rom so they could both write code at the same time. 'Our method of creating rooms in a big side-on action adventure had worked really well with *Super Robin Hood*, and we wanted to do a similar game, but with a completely different theme,' Philip remembers.





The Law of Threes

Philip and Andrew contend that a key reason for the flash success of Codemasters – particularly in the face of fierce competition from the Darlings' former bosses at Mastertronic - was the excellent presentation of the game boxes, in spite of the budget £1.99 price. 'The art was high quality, the layout was always great. They always used clear plastic boxes with four good screen shots of the game on the reverse, with a concise description. Where accolades

had been given they added flashes on the box to capture these third-party validations of quality. It all seems really obvious now, but actually when they did it, they were market leaders in this field. Many publishers, especially budget publishers, sold games in casette boxes with black plastic backs, so they had no space to describe the game or show off screen shots - and that's what would reassure customers of quality as well as giving a good indication of the game style.'



More TV cartoon fun sparked the idea of a haunted mansion. A map of the castle was one of the first items to be planned out for Ghost Hunters and, as the sketch opposite shows when compared to the map of screens on page 66, very few changes were made to the final game.

'Not a medieval theme though,' Andrew adds. 'We needed something new, something different and something with obvious appeal. As Scooby Doo fans, a haunted mansion as the setting came to mind. It could feature ghosts, ghouls, giant spiders and rats, trap doors and the ultimate inhabitant could be Dracula... who would turn into a bat and fly around. We needed a hero character and came up with Hunk Studbuckle, that sounded like a guy who "wasn't afraid o' no ghosts". And what was his mission? We'd done the damsel in distress, so this time we thought he should have to rescue his brother - Buster Studbuckle. How was he going to deal with these ghosts?' Andrew pauses and grins. 'Well a recent popular film had suggested how brave people might take on ghosts...'

The twins set themselves the task of creating what they named Bust-a-Buster at a breakneck pace and started halfway through November based on the underlying Robin Hood code.

'Again – we set ourselves the challenge of producing it within a month. We wrote task lists each day, breaking the game into chunks of code, art and design expected to take about an hour,' Philip says. 'Each time a task was complete, we'd scribble it out and take a chunk of chocolate. This was game development powered by coffee and chocolate! It was very fast and very productive.' After Super Robin Hood's single-player mode they decided to add a two-player mode. 'We thought it would be novel to have one person controlling Hunk, and the other controlling the ghost blaster, steering and shooting at a crosshair target. It was novel, but I'm not entirely sure it really worked. The game overall seemed popular, and people hadn't seen this sort of control before, so at least it was unique. On reflection we

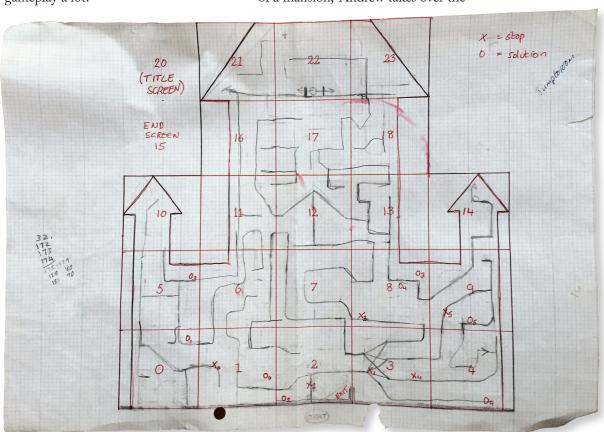
Working with Codemasters gave the twins something of a crash-course in marketing techniques, but they brought to it their own experience as buyers of games. They figured that the box had to grab someone browsing the shelves within a few seconds and this led to the concept for a success criteria based on threes. You have:

- **3 seconds** to make someone pick up the box.
- 3 minutes to make them purchase it

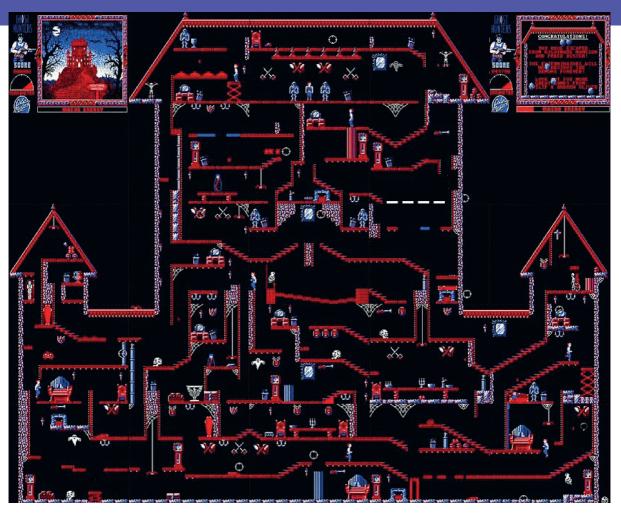
should have tweaked the controls for the shooting and could have improved the gameplay a lot.' from the information and screen shots on the back of the box.

- 3 hours of play in it to be happy with their purchase and tell a friend about it.
- 3 weeks of play makes it a favourite game worth highly recommending to all their friends and make the purchaser likely to buy a sequel.
- 3 months of play to make it a classic game, remembered for years and definitely up for buying a sequel.

'We knew that magazines would map it out, so we created a map in the shape of a mansion,' Andrew takes over the







Philip and Andrew designed their own loading screen... for the last time.

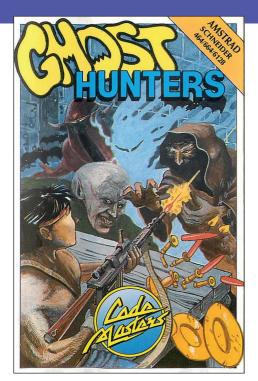
explanation. 'Then we made the loading screen exactly the same proportions.

Pleased with the map, we thought we could provide this to players in the game to track their progress and turned it into



one large sprite for players to call up and reference. This really allowed people to see how big the game was and the final objective.'

Halfway through production it was felt that the name wasn't as stand-out as *Super Robin Hood* and it was changed to *Ghost Hunters*, and imprisoned Buster underwent a transformation to Chuck Studbuckle. The twins wanted Hunk to look as heroic as possible. Philip recalls that the animated sprite character in *Impossible Mission* they had seen on a friend's C64 had impressed them mightily. 'We wanted to include something similar in our game. We



borrowed the C64 for a day and videoed the running man on our relatively new VHS recorder. And then by using the freeze-frame we worked out how to animate a running man frame-by-frame. We did all the graphics ourselves and I remember working through the night, trying really hard to get the title screen looking as good as possible.'

It was to be the last time the Oliver Twins did their own loading screen graphics. From that point onwards other computer artists organised by Codemasters produced their loading screens, though they continued to do all the in-game graphics using *Panda Sprites* for many years.

Ghost Hunters was released in January 1987 and followed Super Robin Hood to the top of the charts and the Spectrum version became their first bestseller on that platform. As Philip

GHOST HUNTERS CODE MASTERS

Code Masters latest release for the Amstrad is a one or two player multi-screen platform game.

The object of this well produced and addictive budget game is to peruse the haunted mansion, zapping the opposition in an effort to locate and release your brother Chuck.

It is best played in two player mode with one player operating the movements of hero Hunk Studbuckle and the other the gun sight.

Scattered around the scenario are magic potions which restore your macho energy level depleted by the evil adversaries and monitored on your terrormeter.

AMSTRAD £1.99

Access between levels is via the many lifts throughout the mansion. To activate these lifts you will need to locate specific objects which may not always be immediately on hand

Overall *Ghost Hunters* is a well produced, playable game with good graphics, detail and smooth movement throughout plus music and speech for extra effect.

| THEME | 6 |
|-------------|---|
| QUALITY | 8 |
| GRAPHICS | 7 |
| PLAYABILITY | 8 |
| PACKAGING | 8 |
| VALUE | 9 |

CTW Monday April 6

says, 'We thought we were too late to make games for the Spectrum and this was the computer that'd we'd had the chance to buy over four years before, but didn't. We'd taken the long route to the computer that would help define our early careers! And we still didn't know how to use that quirky keyboard.'

Ghost Hunters had good reviews from all quarters, including Computer Trade Weekly. **Below:** the C64 version.





A creditable and very speedy job of conversion resulted in good reviews from the specialist

Spectrum press.

SPlinking the Spectrum

As it turned out, the twins didn't need to master 'that quirky keyboard'.

Nearing completion of Amstrad *Ghost Hunters*, the Darlings sent them a Spectrum, saying that if they could write the game on it, the royalties would be far more than for

the Amstrad version. 'At that point the concept of sleep was fading fast!' Philip laughs. 'The Spectrum with its strange keyboard and infuriating code input rules was all too much...but those improved royalties sounded appealing... So we called on a couple of friends, David Jones [not David Jones of DMA, Lemmings, Grand Theft Auto] and our old friend Ivan Link, who was studying electronics. David made a cable to link the two machines we called a SPAM cable - SPectrum & AMstrad. Later, Ivan mass produced them for others and renamed it SPLink cable (SPectrum Link cable, but also Ivan's surname). This enabled us to write Spectrum games on our Amstrad.'

Within a couple of weeks, we converted all the graphics to single-colour and converted the necessary routines.



How do you follow success?

With another, is the simple answer, though *Grand Prix Simulator* was to prove a controversial game on two fronts: was it a copy of Atari's arcade *Super Sprint*, and then if it was, did the game infringe Activision's copyright on their licence to port it across to home computer versions? Some things are certain: the Atari arcade was released late in 1986 and Activision's home computer versions didn't appear until well after *Grand Prix Simulator*. As the discs of a game called *Safari Madness* show, the Oliver Twins were working on a race game much earlier than either date, since

the game back-up discs are dated 10 February 1986.

'Our next game was inspired by a visit to Codemasters while working on *Ghost Hunters*,' Philip remembers. 'Parked outside the offices were two shiny new cars, David's was a red MR2 and Richard's a black Celica. Clearly there





Safari Madness – a 'dodgy' game based on brother Martin's joke of a car, an orange 2CV.

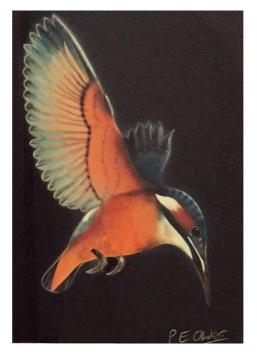
Because it ran the same game code, only the routines linked to inputs and outputs, reading the keyboard or joysticks and writing graphics to the screen and sound to audio-out needed conversion. The rest was the same code because both machines used the Z80 main processor.

Conveniently, they had chosen an Amstrad graphic mode with smaller square pixels which mapped well to the Spectrum's only graphic mode of 256 x 192 pixels and they were able to modify *Panda Sprites* to convert Amstrad four-colour sprites to monocoloured Spectrum sprites automatically. We hadn't taken into consideration alignment on character spacing, which colour attributes assigned would have made it look much better, but we could take that lesson to our next game.

was a happy Toyota salesman locally. Andrew and I joked that we could write a game and buy a car like that. Wait a minute... we really could! And maybe we could write a game about cars. That would be popular. Earlier in the year we'd started this dodgy car game called *Safari Madness*, based on our brother Martin's orange 2CV – a real joke of a car!'

The idea came from a visit to Longleat safari park and a drive through the monkey enclosure. Those monkeys loved pulling bits off cars and we thought if Martin went through in his 2CV they could pretty much dismantle it! The challenge was to make it through the park





Working nearly twenty hours a day, and to avoid going stir-crazy — and inspired by Robin Chapman's skill — the twins signed up for a college course each Tuesday to learn use of the airbrush. Philip created this airbrushed version of the 'Kingfisher in Flight' from the Easy Art box.





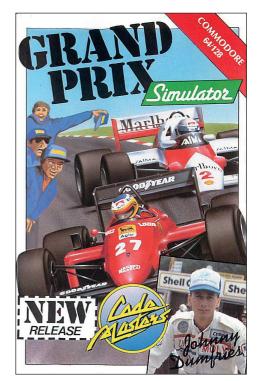
to driver Johnny Dumfries (also above) - 7th Marquess of Bute, Earl of Dumfries, Viscount of Air, Lord Crichton of Sanguhar and a dozen more titles - who promoted the game and appeared on the packaging, right.

Below: one of the racing tracks from the Amstrad version.

avoiding as many monkeys as possible. The apes ran over, jumped on the car, ripped off a piece and ran away with it. You kept on driving but the car was dismantled progressively until all that was left were the engine block on a chassis, the wheels and the driver on a single seat. That was game over – the monkeys attacked in force, stole the wheels and engine, and the driver had to run away.'

Safari Madness suffered from a number of unresolved gameplay





problems which they felt they could rectify in a new game.

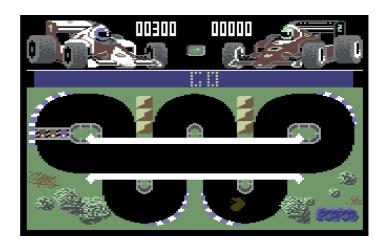
'It's a game we'd wanted to go back and finish at some point, but we'd got stuck on resolving just how to add gameplay. How were the players

supposed to avoid the monkeys? We added a horn feature so players could try and scare off a monkey once they'd jumped on the car, but it just didn't play very well. Richard's *BMX Simulator* was a number one best seller on the C64 and we thought we could do a car version of it. Making it a top-down – racing game would solve the main gameplay issue we had with *Safari Madness*.'

By this time they had a good system for creating 'maps' from sprites, and by bringing the code across from



Ghost Hunters, treated each racetrack as a 'room'. Sprites for the typical items – track pieces, different corners, bridges, spectator stands and cars – we created in *Panda Sprites*. This had the additional advantage of creating all the car movements with the program's rotate function. On reflection,' Philip says, 'a good artist could have done a much

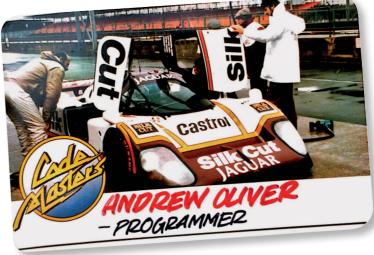


better job – and a few reviewers did comment that the game was like driving "blobs" around the screen. Because we started with the *Safari Madness* code and graphics we used the Amstrad's low resolution, 16-colour mode mode (160×200 pixels), so the cars were very low resolution. We joked it was more like "box racer", but it meant lots of brilliant colourful track maps and we could assign each car a different colour, which we thought vital.'

The game took about two months to write, and as they were working on it, Philip and Andrew became aware of The Amstrad game boasted many colourful tracks, but the C64, a circuit **above**, looked more muted by comparison.

Left: Philip Oliver fancies his chances on the track at Silverstone.

Andrew Oliver's Silverstone pass.







Geoff 'Genius' Crammond.

Atari's Super Sprint, which the specialist press immediately compared Grand Prix Simulator to on its release in March 1987. 'We were writing a sequel to BMX Simulator based on Safari Madness and so we thought nothing of it,' Andrew insists. 'Ours was the obvious way to do a car racing game on 8-bit computers -especially if you weren't a genius like Geoff Crammond who wrote REVs on the BBC, which we loved and played at the time.'

However, having purchased an

Computer Whizz-kids!



Pictured above: Philip and Andrew Oliver of Trowbridge are being threatened by U.S. firm Activision who claim that the pair have copied one of their games. One of their three computer games, Grand Prix Simulator is now heading for the top of the best-selling charts.

expensive licence from Atari and on the verge of costly development, Activision took a different view when magazines compared the two games. Codemasters was delivered a cease-and-desist letter ordering the withdrawal from sale of Grand Prix Simulator on the grounds that the game was too similar to Super Sprint. The Darlings, feeling very confident, decided to publish the letter and journalists lapped it up. One newspaper wrote: 'Whatever the rights and wrongs of the two sides, the home

> computer game "Grand Prix Simulator" is heading for the top of the best-selling charts. One of the specialist magazines says of it, "If this doesn't make number

GRAND PRIX SIMULATOR

Code Masters

£1.99 cs Spectrum £1.99 cs **Amstrad**

This is a car racing game where the entire track is seen from overhead. You and a friend race against the computer's grey car avoiding oil



patches and grabbing the bonus tokens that appear on the track as you skid round the bends at breakneck speed. Very fast, very competetive and great value. Will be interesting to see how the micro conversion of the Atari coin-op Super Sprint compares.



The review in ACE magazine (far right) was typical of the great reception Grand Prix Simulator received. The public reaction may have warned off Activision from actually suing the twins, as suggested right. Considering Activision's complaint, it's ironic that late in 1988 Codemasters took action against Alternative Software on their re-releasing the old CRL game Formula One as Formula Grand Prix. Alleging breach of copyright, David Darling said they were adopting a new tough policy to protect Codemasters' intellectual property.



Please detect my collision

'We used a rather unorthodox method for collision detection,' Philip explains. 'We removed a car, read the pixels' colour beneath it, calculated where the car should be next and put the car back in the new position. Drive on black or white markings and you were on the road or banked corners, if the pixels beneath were green it was grass and your speed got reduced.'

Grand Prix Simulator provides a twoplayer mode but what the twins really wanted were computer opponents as well.

'It would have been difficult to create AI opponents on slow eight-bit computers. Richard Darling used a record-and-playback keys system in *BMX Simulator* to overcome this problem. It worked by playing the game in control of a computer car and recording all the key presses you made. Then when you wanted to race against that car the computer used the recorded key presses to drive the computer car.'

one, something is wrong with the world".' It went on to sell more than a quarter of a million copies. An unhappy Activision took no further action and when their various full-price home ports arrived few experts thought them better than the budget-priced *Grand Prix Simulator*. Of the C64 comparisons, *Zzap!64*'s Steve Jarrett said he preferred 'this version of *Super Sprint* to the Activision one'.

Conversions to Spectrum, C64, Atari

'This method had its shortfalls,' Andrew adds. 'It was easy to crash the computer car, so we put in some code to stop the car and try to recover, but it's not that great.'

An answer was to delay the computer cars slightly at the start of each race to ensure the player always made it off the line first. 'We even had the computer

cars go for the race lines on the first few corners, also to avoid potential collisions. It mostly works, but anyone who has ever played *Grand Prix Simulator* will know

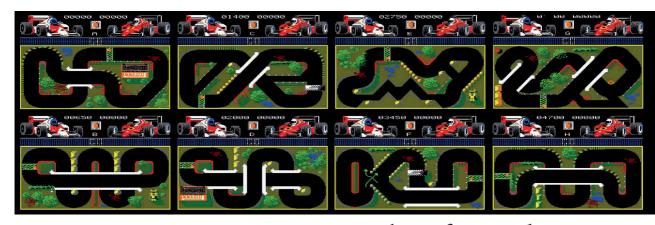


that occasionally the cars go crazy – it always happens after a collision. The 8-bit integer maths we used wasn't great either – we're not mathematicians like David Braben, Ian Bell or Geoff Crammond – so the car dynamics were a bodge. It was also very poor at handling collisions. So, like in real racing, crashes are best avoided!'

ST and Amiga followed, with the twins getting half of all the royalties earned. Philip says of the Spectrum version, 'It disappointed us how long it took to come out, about nine months, and we were disappointed by the quality of the conversion although it did sell very well, shifting more than 12,000 copies on its first day.'

More to the point they earned a lot of money from the game. 'We were able to buy that car a few months later!' Andrew





laughs. 'A very nice new Red Honda Integra, a five-door sporty looking car, that we shared for several years.'

In under two years Philip and Andrew Oliver had gone from being paid £200 for a game to receiving a seemingly endless stream of royalties

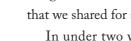
> - and still just nineteen. It was the stuff of local and national press... much like their colleagues the Darling Brothers. They were riding a high wave as the 'Whizz the stories appearing in print

Kid Oliver Twins'. Philip says

were bizarre.

'They always wrote that we were living like rock stars rather than spending eighteen-plus hours a day coding! With all that work we hadn't given much more thought to going to university. In fact our parents were fairly happy we write and tell them that we weren't going to be taking up the places still on hold. And we finished off our business plan for the Enterprise Allowance Scheme.'

And yet, the best was still to come.





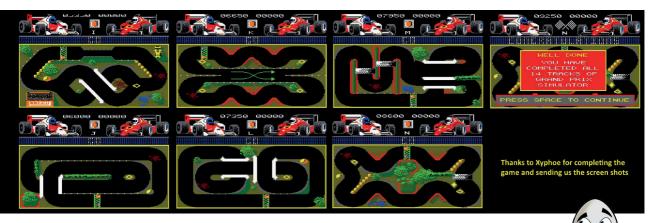
The sporty Honda Integra purchased with royalties from Grand Prix Simulator.

An egg for an omelette

While working on Ghost Hunters Philip had played around with a large head in Panda Sprites but remained frustrated that he couldn't show facial expression on Hunk Studbuckle given the overall sprite size of 24 x 32 pixels, a limit they had set as a sensible size for the main character on screen. He takes up the steps that led to what would eventually be – once the public got used to it – the Oliver Twins' greatest 8-bit hero.

'A head can't move around on its own so I had added red boots and gloves. I tidied it up, and made it egg shaped - it looked quite cute. I thought it would be fun to see what it looked like doing a barrel roll, which I could do with the Panda Sprites rotation function.

'We decided to swap out Hunk for this new egg character in Ghost *Hunters* and put some code in to control him and do a barrel roll. It was a fun distraction for half a day, but at that time we decided to carry on and finish Ghost Hunters as planned, with Hunk they way he was. But now it was time to start a new game we thought we'd pick up



where we left off, with this fun cartoon character who was practically all head and did amusing barrel rolls.'

Cartoons were a daily diet with both boys, and as a brief distraction from coding they sat down in front of the TV around four o'clock every afternoon for a coffee to watch one or other of *Tom & Jerry*, *Danger Mouse*, *Hong Kong Phooey*, *Count Duckula*, *Dogtanian*, *He-Man*, *Thundercats*, *Inspector Gadget*, *Battle of the Planets* and *Dungeons & Dragons*.

'We thought that it would be fun to have this new character explore a cartoon fantasy land, trying to solve puzzles, similar to those that we'd played in text'We thought it would make a great name. It was funny, catchy and memorable.'

The demands were a challenge, but none more than those they set themselves. 'We wanted very distinct areas in the map, locations that would make players marvel at the visuals and pose unique confrontations to overcome. We wanted each screen to be capable of being a marketing screenshot. We drew inspiration from *The Hobbit*, Superman's home in the Arctic for our crystalised mountain, and Indiana Jones.'

They named the world Kathmandu after reading The Green Eye of the Yellow God, the poem by J. Milton Hayes, and

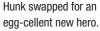


based *Zork* and the Acornsoft adventures. We didn't have a name for the character until near the end of development.' But when their father observed the character's antics and suggested all that somersaulting would make him dizzy they latched onto the word immediately.

made several references to the poem in the game which serve as clues on how to solve some puzzles.

'Rather than rescue a girlfriend or brother, we wanted a different overall objective. The game starts with Dizzy discovering a recipe for a magic potion









Wizard Zaks. He needs to collect a Leprechaun's Wig, a Cloud's Silver Lining, a Vampire Dux Feather and a Troll Brew, and mix them in a cauldron to make the potion required to defeat evil Zaks.'

destroy his nemesis, the evil

In *Dizzy* the player has to collect items and travel to where they are required; for instance the player needs to find a grease gun to help free and move a mine cart that is blocking the route to the mines. This is made more difficult because only one item can be carried at a time and the game features a large number of hazards that can kill Dizzy

torch, it may well be needed later. **Right bottom:** Cigam Village on the C64. You'll need the grease gun to move a mine cart from a cave entrance at the desolated mine.

Right top: Spectrum screen – pick up the

Below: the desolated mine on the Amstrad.



on contact. With only three lives initially to complete the game, this made it very difficult.'

Hoping for the Darlings' usual enthusiasm, Philip and Andrew were surprised at the flat reaction to the finished game. David Darling later said in an interview that Codemasters only went ahead and published *Dizzy* because the previous three games had been big hits and they didn't want to disappoint the twins.

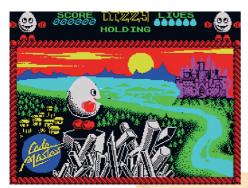
'We appreciated that nobody would recognise it in the same way as *Super Robin Hood*, *Ghost Hunters* and *Grand*



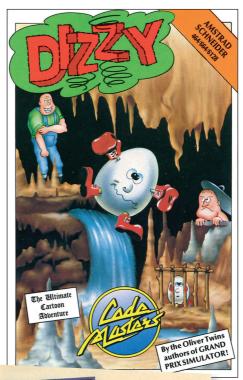


Prix Simulator,' says Andrew. 'They were obvious titles, so we requested they put the words "The Ultimate Cartoon Adventure" on the front of the box. We thought this would really help to sell it.'

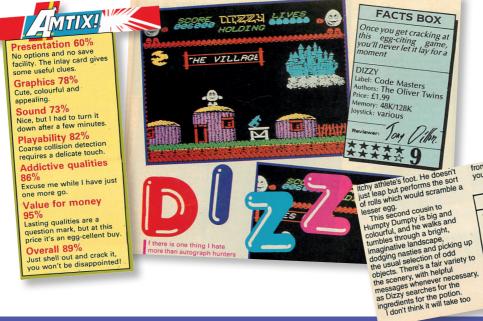
Neither of them was particularly happy with the artwork after briefing the artist, as Philip says. 'When we finally saw the box on shop shelves we liked the Dizzy logo, but Dizzy looked terrible, not like a new hero. And who was this man in the background and the caged Dizzy?'They were happier to see the splash proclaiming the game was 'By the Oliver Twins' – the first time Codemasters had done it. 'But that was



largely to bring attention to it from the success of *Grand Prix Simulator*. Sales were slow at first, but *Dizzy* did catch on eventually... people just didn't know what it was from the box and the name. We didn't wait around and moved swiftly onto our next game.'



Philip and Andrew were displeased at the packaging art, particularly the unprepossessing Dizzy, who hardly looked like a new hero for a new era.



The reviews were universally on the high side: *Amtix!*, *Sinclair User* and *Your Sinclair*.





Right: Atari's arcade Marble Madness was an unlikely source of inspiration for a skiing game, but the 3D principle shows up clearly enough in the Amstrad screen from Pro Ski Simulator. below.

Codies on the pistes; photo by Philip with Andrew in the yellow shoulder flashes.

Off the piste, into the stars

Philip and Andrew were indeed swift. In the spring of 1987, with their newfound wealth, they went to Kaprun in Austria, skiing with the Darlings and a few other Codemasters people and purchased a digital Hi8 Sony camcorder to capture the memories.

'After we returned we thought it was an excellent subject for another simulator game to follow Grand Prix Simulator, which was selling like wildfire,' says Philip. Inspiration for the approach







came from the unlikely quarter of Atari's 1984 game Marble Madness. 'We were fans of the game in the arcades and impressed by its isometric 3D terrain and its gameplay. We could imagine taking the concept and changing the graphics to make it look more like a ski slope, placing trees and log cabins on the snowy mountainside. It felt a bit strange developing icy terrains and graphics in the height of summer.'

As with *Grand Prix Simulator*, in Pro Ski Simulator players raced against each other or against the computer. The slopes had to be completed by passing through all of the checkpoints within a time limit in order to progress to the next location. But the twins ran into problems with the pixel-mapped Amstrad and Spectrum 8-bit computers. 'They were not fast enough to produce the slick full screen scrolling required and players had to "push" their skiers down the beautiful mountain pistes,' Andrew says. 'We reduced the scrolling area to speed it up a little, but there's only so much you can do before it ruins the gameplay and aesthetics. The two previous simulator







Pro Ski Simulator conversions: Spectrum, C64 and Amiga.





games used rotate controls with forward and back. We adopted this without too much thought, but towards the end of development we realised that controlling a skier coming towards you down the screen was a little illogical, and it was tricky to get the hang of it. As developers, we grew with it and didn't consider this until it was too late. In hindsight, we should have changed the controls, but it sold very well and looked great.'

Later in the year the twins went head-to-head with the taxman for the first time, as Philip recalls. When we were preparing our end of year accounts our accountant asked us to identify all our expenses since these are set against profits and so reduce tax liability. The new car was obvious – we needed it to get to business meetings. The computer equipment – all obvious expenses. The skiing was pretty expensive and we

Andrew Oliver does an Eddie 'The Eagle'... and like that worthy ski jumper doesn't always make it down safely!



Opposite: Destroy the enemy Battlestar that threatens all other known life forms! Blinky, your onboard computer, will guide you through the quest... Amstrad battle screen and Spectrum title screen. thought we should put it through, we were writing a skiing game after all. So when we provided the wording for the box we added "... based on the authors' experiences in various parts of Austria". Due to the surprising and sudden profits for this new business by two 19-yearolds, the taxman called for an audit.

'He sat there with our books and all the neatly filed receipts – properly kept, thanks to the training we had on

"Please explain these expenses, flights, hotels, restaurants, ski equipment hire?" - the Taxman

bookkeeping as part of the Enterprise Allowance Scheme. We knew what he was going to pick on and we were ready. "Please explain these expenses, flights, hotels, restaurants, ski equipment hire?" The timing was great, we were able to reach into a bag and pull out two finished cassettes, one for Amstrad, one for Spectrum. "It was research for our

Purportedly 3D -Space Harrier in the Arcades.



latest games, they've just been released and are selling really well", we said. "I see," he said... and moved on to other items without further comment.

'That was the first of many audits, but we've always passed with flying colours. Being in such a "strange business", as the Enterprise Allowance people taught us,

means you are an anomaly that requires further investigation. But it's that difference that is also good for press and publicity, and we love making games and wouldn't have it any other way.'

From the snowy piste to the vacuum of deep space, the next game -3D*StarFighter* – was inspired by memories of playing Vectorbeam's 1979 arcade hit Tail Gunner all those years ago on the school trip to Yeovil Aerodrome. 'That in itself was obviously inspired by the gunning cockpit scene in Star Wars,' Andrew says. 'And we were clearly big fans of Star Wars – you only had to look at the wallpaper in "our office", which was Philip's bedroom, to see that.'

'We'd seen Sega's Space Harrier in the arcade, and many other driving games that purported to be 3D when really they were just sprites scaling according to distance,' Philip adds. 'Panda Sprites does rotation, we thought, so why not add a feature to scale, enlarge and reduce, only prepared offline. All we had to do was save all the various sizes as separate sprites. The game then decides which to display based on distance.'

Aware of the probable comparisons to *Elite* of what they intended to create, Andrew says they were not attempting to produce a simulation like the famous hit. 'We'd have called it "Starship Simulator" if we wanted to do that. No, what we wanted was a quick, fun arcade action blaster, recreating the feeling of being Luke Skywalker taking out TIE Fighters. We created a variety of enemy





spaceships that swept in waves across the screen, releasing energy bombs, like a 3D *Galaxian*. If they got too close you could throw up the Force Field, as every Trekky would expect, to mix movie metaphors. It only took a couple of weeks to write and was a good blast and out in time for Christmas. The game was initially called *C.H.A.O.S.* (Complete Hostile, Alien Obliteration System) but just before mastering it we felt we needed to give it a more obvious name and changed it to *3D StarFighter*. Considering the effort we put into this, it sold okay, but it wasn't a hit and the reviews were average.'

In fact the press was harsh over 3D StarFighter – Amtix! summed it up with,

'I've seen and played better.'

Popular Computing Weekly

wondered if the Oliver Twins

were spreading themselves too

thin – there's nothing like success

to make journos want to pull the
carpet from under their feet. But
as a consolation the Oliver Twins

were riding high elsewhere in the
charts. At one stage the brothers

were responsible for as many as five
of the top ten selling games.



Below: the top-selling Oliver Twins. In 1984 Gallup started to compile weekly sales charts for computer games based on a similar format to their music charts. The weekly Gallup charts became the industry recognised standard.



Simulators | Simu

The Cotswold Water Park – an area of forty square miles, with more than 150 lakes, sited to the south of Cirencester – provided the experience for the next game, *Jet Bike Simulator*.

A watery start to five-a-day

Well before the computer games magazines awarded 3D StarFighter average reviews and with Grand Prix Simulator easily their best selling game, the twins flung themselves into another sim, which took inspiration this time from some free Sundays during the summer of 1987 spent jet skiing.

'Our friend Jon Paul introduced us to Patrick, who was a year younger than us,' Philip enthuses. 'His rich father had bought him a new Toyota MR2 when he passed his driving test aged 17. This summer his father bought two jet skis, one a stand-up, the other a sit-on. He'd drive his dad's Volvo with the jet skis on the trailer and we'd go over to the Cotswold Water Park – just under an

hour away. While we drove up from Trowbridge, the Darlings sometimes drove down from Banbury. Conveniently the Cotswold Water Park was equal distance from both and we'd all have picnic food and fun messing around on the water... and got pretty good at it.'

'Though there were a few scary incidents,' Andrew interjects with a laugh. 'We did get some very nasty bashes and scrapes, but nobody ended up in hospital! Still, in *Jet Bike Simulator* you can do all the things you wanted to do on these things, but weren't allowed! The game consisted of courses around lakes and docks and had the jet skis zooming under piers and over jumps.'

They worked on the game over October and November 1987 and



its release in January 1988 marked a new phase in Codemasters marketing. Together with Richard Darling's *Pro BMX Simulator* on C64, *Jet Bike Simulator* appeared on the Codemasters Plus label in a larger double-cassette box priced at £4.99. As Philip points out, the reasoning was to improve profit margins, which were low at the £1.99 price point,

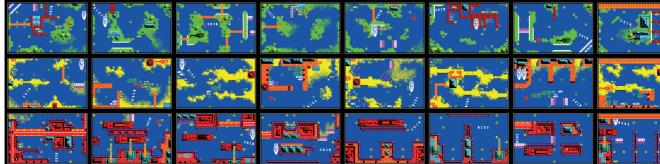
they had £10–15 to spend. In some cases shopkeepers even priced them £9.99. And if kids were standing with their parents who'd agreed they could have a full-price game, why would they want a £4.99 game since the lower price was naturally assumed to reflect lower quality.'

To prove you can't keep good

Philip (left) joins in the laughs, scary incidents and watery fun on the lakes of the Cotswold Water Park. The jet skis became a regular fixture on the Codemasters' recreation calendar.







while the quality of the games was always more than people expected at budget prices. However, what looked like a good strategy and one pursued for another year with several other titles, failed to work as well as hoped in spite of favourable reaction. 'The reason was put down to several factors,' Philip explains. 'At £4.99 it put a game beyond the casual pocket-money purchase that didn't need much consideration. Retailers often placed them on the full-price shelves where people looked when

performers down, shortly after developing *Jet Bike Simulator* the twins were invited to help judge a competition for popular TV show *Roustabout* on The Children's Channel. Interestingly, the boys were not posed according to formula and so were introduced – correctly – as: 'We have here two computer experts, wizzkids computer people, Andrew and Philip Oliver.'

'We received a large parcel of all the entries and had to appear on the show to talk about the competition, announce the

Jet Bike Simulator provided 24 different 'lakes' for players to race around.





Andrew and Philip on Roustabout, getting the opportunity to plug Jet Bike Simulator to thousands of prospective teenage buyers.

Right: before tragedy struck James Wilson (seated), with the Darling Brothers, pictured in 1986. His design for a fruit machine game led to Fruit Machine Simulator.

winners and do a plug for Codemasters and our latest game, which was Jet Bike Simulator,' Philip says, pointing out how much more comfortable they were making the appearance compared with The Saturday Show gig.

Simulations seemed to be the lifeblood of the period, for in February 1988 they started work on Fruit Machine Simulator, although in this case the task was to convert for the Amstrad an existing Spectrum game written by Mark Baldock, the programmer who had converted Super Robin Hood to the Spectrum. This was something new and not, perhaps, a job they really relished, but for one significant factor, as Philip explains. 'We hadn't done pure conversion work, but during a night out in Lyme Regis over the Christmas holidays, James Wilson slipped and fell into the sea and drowned. It was a tragedy - he was just twenty. James had drawn several of our loading screens and we decided it would be good to see his work released on the Amstrad too, so



we decided to take this on and immerse ourselves in the work.'

'We didn't have much interest in fruit machines,' Andrew admits, 'but earlier in the year the managing director of a fruit machine manufacturing company in Bath invited us to tour his factory after



seeing us in a local TV news story. He wanted us to go and work for him.'

They reckoned they didn't have much to lose and that it might even be interesting. In a small industrial unit we found they were literally building cabinets to ship out to pubs. They did everything. They got a licence, like Noel's House Party, and they worked out the key art for the vinyls, glass and reels.



They showed us the controller board and the electronics inside the cabinets and a million wires! It was unbelievable just how many wires were in these machines.'

Philip and Andrew were as astonished to learn that the company's



these thoughts to themselves, knowing that their comments wouldn't go down well with the workforce, and left saying they'd consider the man's proposal.

'Fruit Machine Simulator was really quick to write, just two or three weeks,

Absolutely Brilliant!

Jet Bike Simulator was the first Codemasters' game to use the slogan Absolutely Brilliant! 'We were never shy to use superlatives to promote the games.' Philip says, 'Andrew and I often used "absolutely brilliant" in conversation with the Darlings, and we convinced them to put the words on this game. It went on to become such a common phrase around Codemasters that when I joked to David, "You should just put it on everything", that triggered him to make it the Codemasters motto. It was used for many years and appeared on all the loading screens.'

Code Masters adds Plus range



five programmers had just got controller boards with 68000 chips. They questioned whether it really needed 16-bit chips to control up to around a hundred lights, or that so many people were required to program the moving reels and flashing lights when surely a simple editor with a graphic display could emulate everything? They kept









Your '5-a-day' on a fruit machine: Amstrad, Spectrum and C64...and not a payout in sight.

and it sold fantastically well.' Good – as far as sales went...when the game appeared in the shops in March 1988 the magazine critics were not so fulsome,

something that still rankles with Philip, particularly considering the royalties were going to James Wilson's family. 'Reviewers liked to pick on the fact that you couldn't put money in and you couldn't get money out of your Amstrad. In fact *Amstrad Action* gave the game 0% with the comment "Utterly pointless. What good is a fruit machine that you can't get money from?" I'm sure that most customers were well aware of that when they bought it for £1.99!'

In a following issue, *Amstrad Action* put the record straight, albeit in a mealymouthed sort of way, admitting that while the professionals hated the game, the public loved it.

Their work may not be as sophisticated as some, but they must be doing something right. And it has to be admitted that Codemasters more than anyone demonstrate the dangers of the reviewing system: we all hated Fruit Machine Simulator, but enough of you disagreed to make it a big, big hit. (It would make a change, by the way, to see one or two intelligent and articulate letters on the game reviewing debate.) If any

'It was still annoying as we did care about our reviews. However, as they say, it did what it said on the box and was good fun.'

More perhaps than that – the Amstrad version even had speech and a catchy tune written by the twins' friend Jon Paul Eldridge.

It was around this time, in late 1987,



that the Darlings hired on industry stalwart Bruce Everiss in the role of marketing consultant and he persuaded the twins to spend some of their royalties on upgrading their development kit, as Andrew remembers. 'He convinced us to invest in not one, but two IBM PCs because, fitted with PDS (Programmers' Development System) cards, they would prove much better development machines than the Amstrads we had. We agreed to this at £2,000 each and drove on a dark stormy night to a warehouse-cum-workshop in the suburbs

of London. It seemed a strange set up but Bruce was insistent that the computers had to be built to our specification. They were Dos-based, 8086 machines with massive (!) 20Mb hard drives, 5¼-inch floppy disk drives, all housed in large beige tin boxes and with colour monitors.'

'They certainly looked the part,' Philip agrees. 'The PDS – developed by Andrew Glaister, Foo Katan and Jacqui Lyons – linked to the Spectrum and Amstrad through a ribbon cable. They provided us with a text editor and compiler for Z80 assembler which was faster and more efficient than what we had been using and with those "massive" 20mb hard drives they were better, faster development systems. The Maxam and *SP* Link cables were dropped, but we still made use of *Panda Sprites* on the Amstrad for creating all the in-game graphics.'

A race against time

Bruce Everiss – with Codemasters marketing hat firmly pressed on his head – had a hand in the twins' next project. In December 1987 he asked them if they would be interested in writing a charity game for Sport Aid'88; they thought it was a fine idea in principle, if they could come up with a game.

Left: David Darling and Bruce Everiss, determined to keep Codemasters at the top. This press release dated February 1989, defended the price increase of the budget range to £2.99.

The twins with their new DOS-based 8086 games development set-up, 1987.





Omar Khalifa seen with the Sport Aid '88 Olympic torch in Amsterdam, 1986. Rob Bogaerts 'Watching Live Aid in 1985 on TV and the original Sport Aid the following year had really impressed us,' Philip says. 'Sport Aid'88, being led by Bob Geldolf again and running in conjunction with UNICEF, was going to be massive and it would be great to be part of it. Also, as we were doing pretty well, we felt this was a good way to give to an important charity.'

Sport Aid involved friends and family sponsoring people to complete 10km runs. The original 1986 event took place in 89 countries on Sunday 25 May, with some 20 million runners from around the world. To start the 10-kilometre races, the champion Sudanese 1500m runner Omar Khalifa lit a symbolic torch from the embers





Global landmarks from C64, Amstrad and Spectrum screens. of a fire in El Moweilih relief camp in the Sudan. He then ran through twelve European capitals carrying the torch. It was the concept of Omar Khalifa visiting different cities around the world that Philip and Andrew picked on.

'We thought it would be a great opportunity to draw some amazing

iconic landmarks from all around the world,' Andrew recalls. 'Elite System's *Bomb Jack*'s backgrounds had really impressed us. We loved producing lots of landmarks like the Pyramids of Giza, Buckingham Palace, The White House, Mount Rushmore, Sydney Opera House, the Kremlin and so on.'



In an interview that appeared in *The* Guardian the twins told Meirion Jones that Sport Aid had laid down the ground rules for The Race Against Time, among which was the edict 'you mustn't have aliens zapping people', which under the

CODE MASTERS SAVES THE WORLD

CODE MASTERS plans to help the world famine-aid charity Sport Aid-by world famine-aid charity Sport Aid-by writing a special game based on the sports extravaganza and donating all proceeds to it.

The game will probably be based on Sport Aid's sponsored 'race against time' run. Before the mass race an athlete runs from some several cities carrying a torch, and the game will likely follow that star runner.

An April release is expected.



take one bit of pillar; we put lots of them on top of each other and a few pieces across the top and, hey presto, there's the Parthenon. As Omar Khalifa, you start out from Ethiopia and set out to explore the rest of the world. You carry an Olympic torch raising "Change the World" flags in each country, and racing to collect Sport Aid globes along the way before the flame goes out. Each screen is a puzzle.'

'Solving the problem is just logic,' Andrew told the reporter. 'You've got



circumstances seems only reasonable. The first thing Philip did was to draw the map of the game (on Christmas Day), then they made 'scrappy' drawings of the locations, which went to Codemasters' artist, Stuart Ruecroft, who returned small repeatable sections, 'like Lego pieces', Philip told Jones. 'For instance,



The twins appear on the front cover of the Guardian newspaper supplement; and 'yes... we're the wrong way round!' Philip says. 'We don't always get it right.'



One thing went right for The Race Against Time - Peter Gabriel's music, but otherwise the game encountered several headaches. including the estate of Jesse Owens.

Peter Gabriel joins Race Against Time

POP STAR Peter Gabriel's hit song of 1980, Games Without Frontiers, is to be used by Code Masters for its forthcoming Race Against Tin the link with Gabriel: "It is fal Sport Aid co

felt able to help." felt able to help."

Regarding the use of the sussection with Sport Everiss enthuses: "We wante ame I'me charity song which conveyed the game I'me.

The standard of the stand

sion show. It is the first-ever televised launch of a computer game.

citing opportunity to game. Bruce Everiss, marketi Code Masters rues



Aid's long-term approach has a it chance of saving many lives" - Peter

Page 2 CTW Monday May 30 1988

Coders quiet on

Code Masters' Race Against Time charity title has been beset by an extraordinary ast minute foul-up.

of attempting to replace some 30,000 inlay sleeves.

The firm is declining to

comment in any detail about this latest problem to hit a The original packaging fea- computer charity title. But it

inlay cards and adverts featur-ing Carl Lewis are currently being prepared.

To date, sales of the title supporting Sport Aid - have

an elephant in the way. You find a piece of cheese in Holland, bring it back, put it next to the elephant and the mouse comes running across, the elephant sees the mouse and runs off - easy!'

Codemasters licensed Peter Gabriel's 'Games without Frontiers' for the game's music, the musician waving royalty payments for its use. 'David Whittaker did his best to reproduce this so it would run on 8-bit computers,' Philip says, looking back on it. But I'm not sure how pleased Peter Gabriel would have been with it. We were pleased though, as we got to visit his house and music studio, the Real World Studios, based in Bath, only twenty minutes from where we lived. There were two Saturday morning television show launches for the game, the first on Get Fresh the second on ITV's Television South channel's popular show No. 73, broadcast live from the Maidstone Boots store in Kent. 'We arrived early and they'd set up a section of the store with about ten computers, screens and lots of kids drafted in from a local school both as crowd and as players,' Philip remembers. 'During the morning the presenters in the studio kept cutting back to "Let's see how everyone is doing with the new Race Against Time game?" and the local presenter interviewed us, or the kids, talking about the game. The presenters really wanted it to be a competition between the kids, challenging them to get the highest score, but it wasn't really that sort of a game. So instead they had to resort to things like, "Have you got to the White House yet?" or, "Wow – is that Sydney Opera House?"

Things didn't go smoothly, for the game or Sport Aid '88. There were legal complications over the chosen cover image of the American black athlete

Jesse Owens winning his gold medal in the 1936 Berlin Olympics in front of Hitler. It was unauthorized by the athlete's estate and Codemasters were forced to ditch some 30,000 of the first issue, which severely hit the first week's sales in April. They switched to a colour photograph of Carl Lewis, the current 100m world record holder, for subsequent runs. The actual 10km sponsored event was blighted by a postal strike in Britain, which meant most people didn't receive their registration packs, and Sport Aid

Limited, the administrative wing of the charity, went a massive £2 million into debt and had to seek government assistance to bail it out. Bruce Everiss told *Computer Trade Weekly*: 'With 20-20 hindsight it is extremely debatable whether we would have entered into a relationship with Sport Aid.'

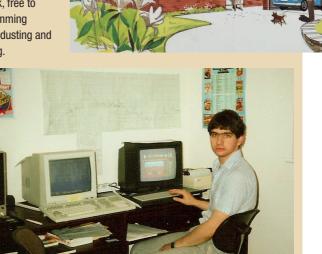
While reviews for *The Race Against Time* ran the gamut from fair-to-middling, sales did not. Philip thinks there was another factor to take into account. 'Codemasters were keen for

Our house, in the middle of our street - not!

The twins had just turned twenty, they were earning a lot of royalties and decided it was finally time to move from their parents' house. 'Property prices were rising and seen as a good investment so we bought a house in Trowbridge,' Philip says, and then corrects himself. 'Well, actually we bought a plot of land that was going to be developed called 1 Shrewton Close. It was on a new housing estate called Wiltshire Grove and every few weeks we'd go round and watch it being built and take some photos.

'It was finally finished in November 1988 and we moved in. We wanted development to be as efficient as possible and turned one of the large bedrooms into an office. We also hired a cleaner, Gloria, so we didn't end up spending time cleaning when we could be writing games.'

Artist's impression of the Oliver Twin's new home, 'The Henley', which cost £112,000 in 1988. It gave them a more spacious spare bedroom to act as an office, Andrew pictured at his desk, free to be programming instead of dusting and vacuuming.



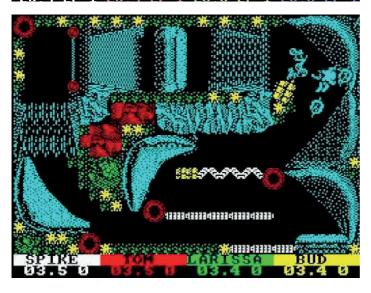




Pro BMX Simulator on the new Codemasters Plus £4.99 label, the original C64 version and the Oliver Twins' Spectrum conversion below.







retailers to give all profits to charity and as a result the game did not sell as well as we hoped. Added to that, to set the game apart from budget games, it was released in the double cassette box as a Codemasters Plus at £4.99.'

Conversions and balls

Having raced against time, the next two projects were tacked in between others through the summer of 1988 and involved conversions rather than original games. Richard Darling's original BMX Simulator had been a huge success, but the game was looking dated and so he came up with Pro BMX Simulator on the C64 and asked the twins to make the Amstrad and Spectrum versions.

'We were given the full source code, graphics and data and decided the best way to convert it was to translate instruction-for-instruction - 6502 to Z80 – since we knew both well, says Andrew.

Over the course of a week they re-wrote the entire game this way and over a further couple of weeks in late April linked in their graphics and input routines for the Z80 computers. A few weeks' more were spent tidying up the graphics and controls to be more suitable for the Amstrad and Spectrum, and integrating new music and audio. The game released on the higher £4.99 Plus label in June.

Before they were finished with Pro BMX Simulator, Stefan Ufnowski (1954–2001) approached the twins

out of the blue asking if they could convert a game called *Incredible*Shrinking Sphere his company, Tarann
Software, was developing on the C64 for Activision's Electric Dreams label.
For them to go ahead with the project,
Philip and Andrew felt it would have to be something of an undercover job, as
Philip outlines. 'In the preceding months



we'd often talked to Codemasters about signing an exclusive deal in return for higher royalties, but they'd never come through on that deal. So we decided to write the conversions, but feeling that it might undermine a potential deal with Codemasters later we wrote under the pseudonym of Ivan Link, our friend who had often talked about trying to get into the business.

'These guys had written an isometric eight-way scrolling C64 game, with a marble rolling around mazes,' Philip continues. 'It was pretty cool, we loved *Marble Madness* and this was a different spin on it. Stefan was the lead programmer, and there were a couple of younger guys, Colin Reed, another programmer, and Steve Green on graphics. At about that time they

moved base and renamed the company Foursfield after their new address at 4 Manor Fields, not far from Trowbridge.'

Andrew joins in: 'We discussed the fact that full-screen scrolling on the Spectrum and Amstrad was generally not done, and warned them that the scrolling area would need to be reduced in size to get a reasonable playable





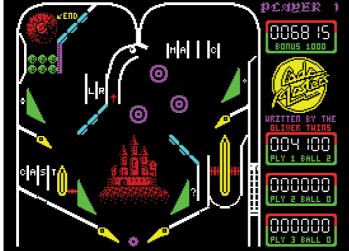
Left: Tarann
Software's C64
Incredible Shrinking
Sphere and the 'Ivan
Link' Amstrad and
Spectrum versions
above.

speed. We all agreed that it was the only way to convert the game. We were very confident that if anyone could do it we could, we knew these computers very well, and we were sure we'd do it better than anyone. They had most of the game finished and wanted it converted by the first week of September. We received all





Advanced Pinball Simulator was supposed to be a quick and easy game to write, but turned out to be a more complex task than Philip and Andrew had anticipated.



the source code and graphics and we did as accurate a conversion as we could, and on schedule.'

While working on ISS, Philip and Andrew had the idea of producing a pinball game. 'After the success of Fruit Machine Simulator it seemed like a good idea to produce another simulator with a similar theme, so we wrote Advanced

Pinball Simulator.' Philip says, 'We liked to alternate the type of games we wrote for two reasons: first because we wanted a change and second because as we finished one we had no idea how it was going to sell.'

So it was a sensible way of hedging bets. As fans of Night Mission on the Apple II, they thought that if they could create a specific engine, as had been done for Dizzy, they could simply create new tables and release many differently themed pinball games. It seemed easy to write at first, but it soon became apparent that the whole idea was more complicated than we'd first thought,'



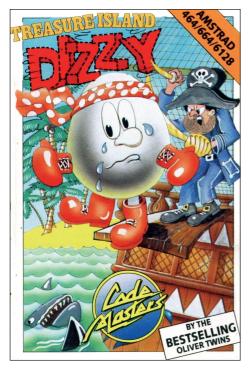
Philip admits. 'We had to implement a more complex system, meaning the game took a lot longer to write than anticipated and we abandoned the idea of producing more pinball games with different themes.'

Developed over August and September 1988, Advanced Pinball Simulator was released in October and it was the first time the slogan by THE BEST SELLING OLIVER TWINS appeared on the front of the box as a major selling point. It was also the first game to go on sale at a new standard price of £2.99.

Philip shakes his head. 'We were very disappointed that the Darlings only increased our royalties from 13.5p to 15p per cassette sold, and not 50% as we thought fair.'

Dizzy is a treasure

While Dizzy: The Ultimate Cartoon Adventure had started with slow sales, the audience uncertain of what it was or what to expect, unlike most games its rate of sales kept climbing all the while. As the numbers mounted, the amount of fan mail turning up at Codemasters increased, and so did the pressure for a follow up game. As Philip says, he and Andrew were only too happy to get on with it, and in the short period of October and November, developed a bigger, better adventure that became titled Treasure Island Dizzy. 'We took



the opportunity to make quite a lot of improvements in the game mechanics, particularly the inventory system. We wanted the game to still feel more like an arcade game with simple controls, but thought an inventory of three items could be accomplished without the need for more keys. We achieved this through a scrolling inventory which worked quite well, but did mean having to drop items sometimes when you didn't want to.

'We also liked putting in hard-to-reach places to challenge the players to get to them, but then found we needed to introduce rewards for doing so, which led to us adding 30 coins to be collected. To make this particularly challenging, we hid a few behind items in the environment, confident that this would get people talking and were reassured that, within a few months, the magazines would provide maps if they were too tricky.'

'Since the game is viewed side-on,' Andrew adds, 'and we wanted to encourage mazestyle exploration we needed some additional locations to facilitate this. Our main solution was The Snoogles' Treehouse Complex. The Ewoks' treehouse village in *Return of the Jedi* was largely the inspiration for this. Interestingly, even with all the Dizzy



· David Darling: another quid each for these

Codemasters – the firm run by the Darling brothers – has upped the prices of its budget games from their traditional rockbed of £1.99 to £2.99.

The firm says the extra money will be ploughed back into game development in order to produce "even better" titles. And it says software buyers won't mind paying the extra because "the games are worth more than that anyway".

It would appear that the success of Kixx and Encore's £3 games has prompted the decision. More and more software houses are settling on £3 as the ideal budget price with £2 games often being regarded as the poor cousins of gaming.

Old titles already on the shelves will remain at the original price but any new Codemasters £1.99 games are being ruled out.

"The money will be very useful," commented marketing manager Bruce Everiss. "I don't think the extra £1 will make much difference."

Codemasters' success over the past two years has been predominantly based on cheap games which sell exceptionally well to the younger gamers. "Our games deserve to be £2.99," insisted Everiss. "Inferior people's games will not come up in price."

This news comes at the same time as an announcement by Codemasters of full price labels. The old Plus label of £4.99 games has been repositioned so that its titles now cost £8.£9. And Codemasters Gold' has been set up to accommodate higher priced games for the 8-bit and 16-bit machines.

· NEW COMPUTER EXPRESS ·

David Darling defends the increase in budget prices to the computer press.





It's not everyday you see an underwater egg, but the snorkel can prove to be a problem, and the Snoogles' Treehouse has a good deal on 'BMX Simulator Two'.



"We're pretty sure everyone who bought the original Dizzy bought this within the first week..."

> games written, no one has ever seen a Snoogle.'

> Not many people had ever seen a swimming egg either, but it seemed like a neat idea to introduce some underwater scenes - a shipwreck and underwater caves to explore - but it led to a problem, as Philip explains. 'Now everyone knows that eggs can't breathe underwater, so players had to find the snorkel to enable underwater

exploration. The game was coming on really well, three weeks in and only a few days left before mastering, when it dawned on us that players would have to put the snorkel down while underwater due to our scrolling inventory system. If they did this Dizzy would drown. Although the game would give them another life, it would put them back next to where Dizzy died... and he'd drown again. We discussed how to resolve this, and with time against us, we decided foolishly to remove the problem completely by removing multiple lives. This was a quick and nasty fix as it had



the obvious side effect of making the game much harder than intended.'

But it meant they were able to master the game a day or two later and deliver it to Codemasters for production. Nobody tested it: for one, everyone assumed the twins had done that; for two, there was no time to lose to get Treasure Island Dizzy to retail for November and the run up to Christmas, the main selling season. This time, Dizzy arrived in style - sales were ballistic. 'We're pretty sure

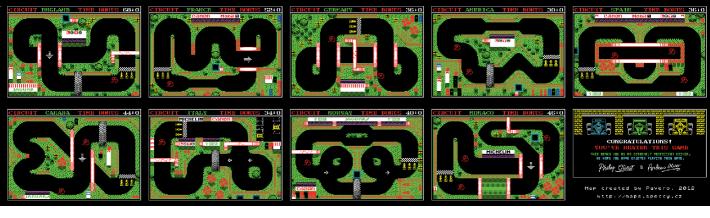
everyone who bought the original *Dizzy* bought this within the first week, which obviously sent it to number one in the charts for the whole of the Christmas selling season.' Philip gives a gleeful chuckle at the sweet memory. 'Great reviews boosted sales still further. We regretted the decision to remove the lives, but many people still say it was one of their favourite games. It would have been easier to play had we solved the snorkel problem in a better way.'

Still, it was clear that the Dizzy character was a popular hit and they were sure there would be more Dizzy games,



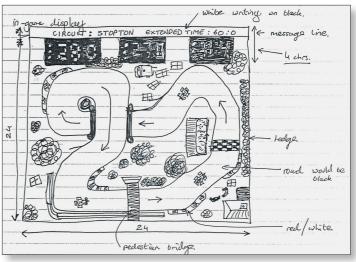
December 1988. The twins worked hard to ensure the Spectrum version would be everything they wanted it to be. However, although sales in April 1989 were respectable they never reached the level of the first game. Given its much

Above: Philip on the BBC's *Pebble Mill Presents 'Daytime TV'* in 1989, inspiring kids to become programmers, as the twins coded *GPS2*.



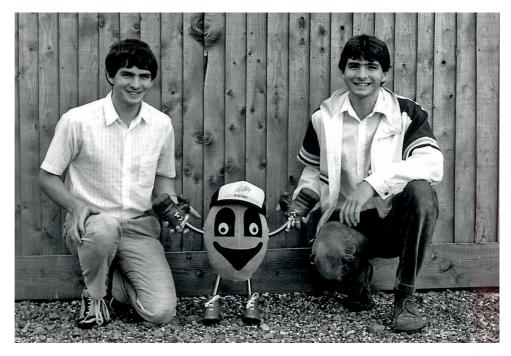
but the twins had a few other ideas they wanted to do first, and one of those was to be an improvement on the original *Grand Prix Simulator*. Philip argues that its Spectrum conversion was not up to scratch. 'Having written *Jet Bike Simulator* for both Amstrad and Spectrum, we had produced extremely elegant code and thought it would be really easy to reskin it in the style of *Grand Prix Simulator*.'

Work on *Grand Prix Simulator 2* went smoothly during November and





The photo that went out to the computer games press: riding high with a popular character, good reviews boosted sales for *Treasure Island Dizzy* to new levels. But the twins wanted to do more than an endless succession of Dizzy games.



better quality, this disappointment was made up for by the other project that they worked on back-to-back with *Grand Prix Simulator 2*. Although the title, *Fast Food*, didn't give much away, the box artwork featuring a manic Dizzy told enough of a story to make this another hit. And 'manic' was pretty much the watchword.

'We'd just started *Grand Prix*Simulator 2, but we knew it would not be released in time for Christmas,'

Philip explains. 'We still wanted one and convinced ourselves we could write a really quick game. If we started Friday evening and had it done by Monday morning, it wouldn't really affect the GPS 2 schedule, it was a self-imposed Game Jam.

'For some time we had thought it was time to write a *Pac-Man*-style game for the Amstrad as we perceived a gap in the market for a good maze game and at a

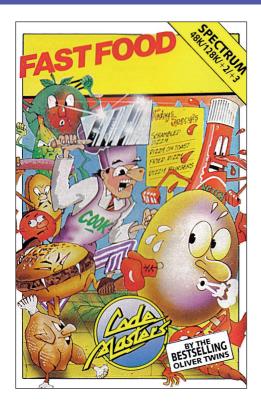
budget price, so Fast Food was born.'

'We pretty much achieved the weekend schedule,' Andrew says. 'The game was up and playable with all 30 levels in and we spent a further two weeks implementing improved graphics, front end and music. We didn't get much sleep, but it was fun, so it didn't matter!





Dizzy as Pac-Man with an appetite to feed, Amstrad on top, Spectrum screen below.



Rather than eating dots we had Dizzy eat food, which didn't want to be eaten so it ran away – it was fast food! There were Milkshakes, Pizza, Burgers and Chickens. Power-ups came in the form of relishes - mustard and ketchup. Like Pac-Man, we created four monsters to stop Dizzy. Each had a different behaviour. They only made decisions at a junction, and using a very simple artificial intelligence exhibited a different behaviour. Bonso, slow and stupid would not consider Dizzy's position, while Fido and Pipa always headed toward Dizzy. Wiza might have been fast, but was unpredictable, ignoring where Dizzy actually was.'

Fast Food was designed to be accessible to everyone, from novice to seasoned player, which is why the first

level was simple and without enemies. The difficulty ramped up with each level, as might be expected, but the level-start selection was novel for any game at the time and meant players could access the right level of challenge to suit them, rather than always starting over from the first level.

It would have made the shops in time for Christmas but for one thing: Bruce Everiss had a brainwave of a marketing idea and contacted the Happy Eater restaurant chain to see if a tie-in could be achieved, with the necessary renaming of the game to *Happy Eater* (and switching Dizzy for some more appropriate character) and the company stocking copies at all their numerous outlets. 'It seemed a good idea,' Philip says. 'Unfortunately, the deal fell through and the game was finally released later than we wanted in March.'

While waiting for a decision, it was decided to set up a publicity shoot and

photograph Philip and Andrew eating fast food to go with review copies to the magazines. It wasn't such a simple matter, as Philip explains. 'Our school friend Paul Eynon was a keen photographer

and offered to take the photo. I phoned a couple of places, speaking to managers and each time they said, sorry no, you can't do publicity photos without head

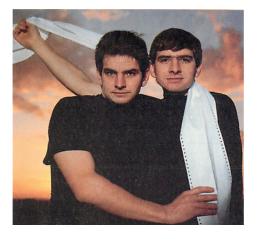




Happy Eater wouldn't co-operate and the Big M wasn't asked in case they objected...



'Philip and Andrew Oliver: the software industry's answer to Bros' – according to one weekend colour supplement.



office approval. After the third rejection I figured there's no harm, we'll just go and do it. I learnt the meaning of "to seek approval is to ask denial".'

Fast Food received some enthusiastic reviews. Codemasters ported it across to all platforms and sales soared. By March 1989, when the figures for the previous year were all in, there were some startling statistics for the Oliver Twins, which allowed them to state that they were probably Britain's best selling games authors. In only two-and-a-half years their sales had topped a million copies, they had written six Gallup Chart No. 1 games (*Treasure Island Dizzy* was

Sales for *Fast Food* were hotter than a Whopper; this version on the Amiga.



Gallup Chart No. 1 right then), and written fifteen Top 10 games. Philip says they couldn't quite believe the figures. 'Codemasters told us that over half their sales were from our games! Gallup research at the time recorded Codemasters as having 15% of the UK games market. We put out a press release saying that 7% of UK games sold were written by us.'

Philip and Andrew may have been gaming masters of the 8-bit universe, but they couldn't even help out a friend's cousin, who was a fan, with a simple programming problem, as Andrew wryly recalls. 'He was nervous and a little starstruck, so we signed a few game boxes and finally got a question out of him... "How do you get this word to appear," he said, pointing at one of the red words under the keys on his original rubber keyboard Spectrum. We only used the keys required to test our games. We may have been best selling authors on the Spectrum, but we didn't program it directly. Anyway, we tried to show him, but actually we really didn't know what we were doing.'

Busted by Ghosts

When in January 1989 Stefan Ufnowski of Foursfield asked the twins if they would like to convert *Ghostbusters II* for Spectrum and Amstrad they jumped at the chance to work on a major film licence. Stefan had secured a deal with Activision to develop all the home computer versions and Foursfield were

designing and writing the 16-bit games on the Atari ST and Amiga, and porting it to the C64. The timing seemed perfect. 'The movie was set for release in the summer, some six months off – with all the games scheduled for release shortly

afterwards. It was expected to be a great seller for autumn and Christmas 1989,' Philip says. And they expected to

get well paid for their efforts.

Sadly, the outcome was to be very different.

What looked on paper like a reasonable schedule became less so as the complexities of working from a motion picture that no one had yet seen encroached – that and the limitations of the 8-bit computers over their bigger, faster and younger 16-bit cousins, as Philip points out. 'The ST and Amiga were able to scroll the screen far more easily than the pixel-mapped screens of the Amstrad and Spectrum, which made our versions slower and trickier to play.' And then there was the content, because by 1989 full-price games were expected to have either a lot of depth or multiple sections... 'The common approach to movie tie-ins - where depth is hard to achieve because it's mass-market and you have to stick pretty much to the script was to take several key scenes and turn them into relatively shallow but fun games. Taking just two scenes from the

movie was not enough, four would be prohibitively expensive – so three it was.'

The Ghostbusters II plot revolves around the energy in Slime, which the Ghostbusters used to animate the Statue of Liberty, and this theme was to

> run throughout the game, as it would do the film. The pitfalls of programming before the film is finished is

made clear from the game's first ghost encounter, as Philip points out. 'The film script described a scene where the Ghostbusters descend into the sewers to find lots of ectoplasm at the bottom. And it talked of ghosts circling around the Ghostbusters. It seemed a pretty major scene and was going to look impressive. Sadly, when the movie was shot this scene was very short and they removed any ghostly apparitions. In the next level, bringing the Statue

The only known photograph of Foursfield: L to R Stefan Ufnowski, Anna Ufnowski, Steve Green and Colin Reed.

Philip and Andrew pose outside their home with yards and yards of code print-out paper for Ghostbusters II.







found it difficult working on a game of a script not yet even filmed, let alone edited - even the choice of which Ghostbusters logo to use - back leg below or no back leg? - had to wait until the last minute.



of Liberty to life, the gameplay was based on the classic, tried and tested horizontal scrolling shoot 'em up. For the final battle in the museum Foursfield had chosen to design it as a series of 3D isometric rooms. Players would have to run around in order to defeat Janosz, Vigo and protect the baby that Vigo wanted to possess to allow him to return to life in the New Year. This was a good idea but technically pretty tricky, especially on 8-bit computers.'

'The first we saw of the film,' Andrew joins in, 'was at a private viewing in Leicester Square in London, along with a bunch of film reviewers, including Barry Norman reviewing for Film '89. By this point the game was pretty much finished. This makes game development of films very difficult. We had an advantage that as a sequel we could watch the original, compare with the new script and pictures and attempt to fill in the gaps. For instance, during production the film company couldn't decide on the final logo and we kept receiving different instructions on which to use. Was it the logo with or without that back foot?"

Public reaction to the game was mixed, no doubt in part due to the confusion among reviewers. ACE slaughtered the 16-bit versions with: 'Four years after the block busting success of GB1...Activision serves



up christmas spirit with its turkey...', whereas *C&VG* gave 85% to the ST game; *Amstrad User* awarded it 80% and *Crash* backtracked on earlier preview praise to knock the Spectrum game back to a grudging 74% in comparison to *Sinclair User*'s 70%.

However difficult writing the conversion had been, it was nothing compared to what followed. Philip puts it bluntly. 'We didn't get paid for all of our work. The contract was for £20,000, split into milestones as is normal in the industry. We worked on it from February to October 1989. While writing *Ghostbusters II* for Foursfield-Activision





we also wrote *Operation Gunship* and during the testing stages of *Ghostbusters* we designed *Fantasy World Dizzy*.

Too many ghosts – the movie cut this scene right down.





Waiting patiently to be paid by Foursfield.

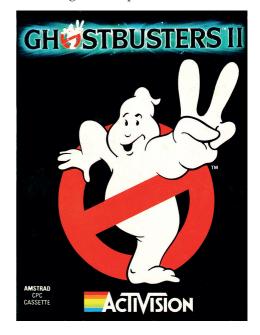
'Because the assets from the 16-bit versions were delivered to us late, we ended up delivering the master a few weeks late, in August. Stefan didn't pay any of the outstanding invoices which totalled £7,750. We chased and eventually resorted to solicitors. Eventually, after approximately a year and with us having moved to Leamington Spa, the first court case was set in Devizes, Wiltshire.

'At the first hearing, Stefan failed to show. A second court case was set and this time he appeared. After hearing the evidence – or lack of it on Stefan's part, we were able to demonstrate the lateness of his delivery to us and the fact that we had actually made up some of the lost time – the judge ruled in our favour. It is possible Activision penalised him for delivering all versions about one month behind schedule, but we don't know, and as far as we can remember he didn't use this as part of his defence for not



paying us. He was ordered to pay the outstanding money plus interest and costs on 7 August 1990. Unfortunately he disappeared and Foursfield was closed. So we never saw any of that outstanding money.'

Throughout the production of



I enjoyed the original game but am disappointed with the follow up. with a mere three levels a bit steep at the price. While it is good graphically with the four intrepid spriles and assorted nasties neatly done, a bit more gameplay action could have been provided. I hope the film is better.

MARK 75%

Silck, with good graphics and sound, but saddy olavability.

MARK 75%

Silck, with good graphics and sound, but sadly playability doesn't match presentation.

PRESENTATION 84%
GRAPHICS 85%
SOUND 76%
PLAYABILITY 65%
OVERALL 74%

CRASH JANUARY 51

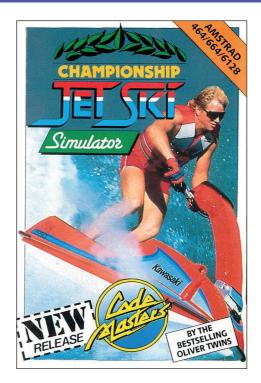
Ghostbusters II, the twins also worked on Championship Jet Ski Simulator (a reboot) and the all-new Operation Gunship, both for Amstrad and Spectrum. For the first, it was a case of taking the original Jet Bike Simulator and reducing it to a single-cassette format and price point of £2.99. 'There was some confusion for us as to whether we had used the right name first time around since they were becoming more commonly referred to as jet skis, so we decided to rename,' Philip says.

Between May and July Philip and Andrew created *Operation Gunship*, an expanded version of *Choplifter* that had impressed them on the Apple IIe. 'It was cool, but we wanted to add something new. So we used an aerial view of a helicopter flying around an island



picking up soldiers to give the player much more scope for choice.'

As pilot of the helicopter, the player received a briefing aboard an aircraft carrier and then flew up to five missions across hostile islands, rescuing commandos. 'We loved the chain reaction explosions that players were able to achieve,' Andrew says. 'We made some of the buildings and bridges deliberately



Left: Jet Bike Simulator – renamed, repackaged and now £2.99

weak so bombing one would see the rest explode progressively. If you got lucky you could even shoot down an enemy aircraft and cause it to crash into one of these buildings to start the devastation. The islands had great coastlines, beaches, green areas and forests with roads a cutting through, ideas and work that

Left: screenshot from the Spectrum version of *Operation Gunship* and **below** on the Amstrad.





With *Operation Gunship* Philip
and Andrew Oliver
became 'famous'.



A piece of artwork similar to the one below was created for *Operation Gunship*, but unfortunately it depicted the wrong sort of 'gunship'.

we'd salvaged from Excalibar.'

Philip reckons it was their most ambitious project up to that point. 'We were quite pleased with the final game, but wished it could have scrolled faster. Still, we did get a Crash Smash award. Interestingly, it looks and plays so much better on emulators which have the ability to increase the speed up to 200%.'

There might have been another game in it, due to a misconception on the part of Codemasters' production department. Informed that the next title involved a gunship rescuing soldiers from islands, a beautiful rendition of a naval battleship resulted. Philip laughs at the recollection. 'We thought the description was specific enough back then, but the artist didn't realise our gunship was actually a helicopter! They had to go and produce another new illustration quickly, but they had this awesome picture. So word went out to all their developers for a Battleship Simulator game, which sadly didn't happen. We considered writing one ourselves, but wanted to create another Dizzy game in time for



Christmas.'

Putting a spin on Dizzy

It was time for another Dizzy game after the success of *Treasure Island*. Since both Dizzy games to date featured characters other than Dizzy on the covers when only Wizard Zaks appeared in the games, the twins wanted to introduce a lot more. 'We wanted a maximum possible variety,' Philip explains. 'Zaks was back, but we added a Troll, a Shop Keeper from Down Under, a strange wild boar and a couple of dragons – every game is better with dragons!'

It was also considered that Dizzy should be part of a family. There had been a reference to the Yolkfolk in *Treasure Island* on the box instructions, but this time the entire cast was to appear within the game. 'Dylan was based on Neil from *The Young Ones*; The Fonz from *Happy Day* was inspiration for Denzil; Daisy, Dizzy's girlfriend, was a cross between Daphne in *Scooby Doo* and Daisy from *The Dukes of Hazzard*. Dora, Dizzy's sister, was based on Velma in *Scooby Doo*; Grand Dizzy was basically Grandad from *Only Fools and Horses*; and

finally we based Dozy on Sleepy in *Snow* White and the Seven Dwarfs.'

The single life in *Treasure Island* because of the snorkel conundrum had been a mistake, Philip admits. 'We





reinstated the three lives from the original and made the maps and puzzles bigger and better. We were very careful as we designed the game to ensure there were no places you could put something down and make it impossible to complete.'

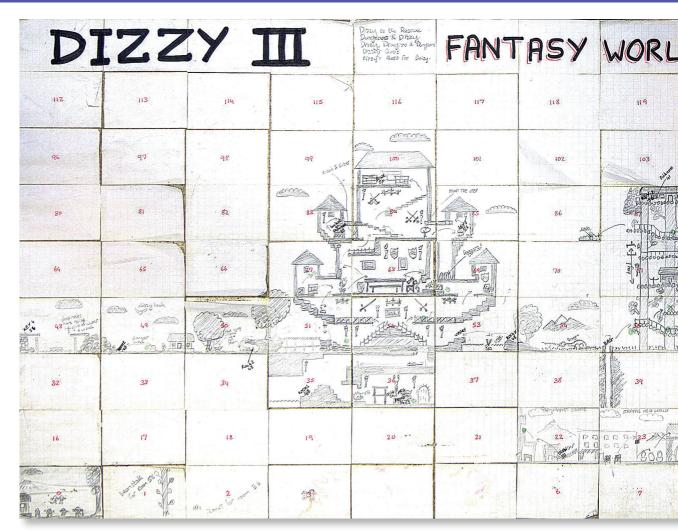
Andrew is particularly pleased with the Jack and the Beanstalk

puzzle chain. 'Players
had to reach the
Cloud Castle,
which could only
be done by growing
a Beanstalk, and

Top: Spookiness in the Castle's Dungeon on the Spectrum version of *Dizzy III – Fantasy World Dizzy —* and Denzil's Pad looking cosy on the Amstrad, **above**.

The evil Wizard Zaks returned, to be joined by Dizzy's family of Yolkfolk...

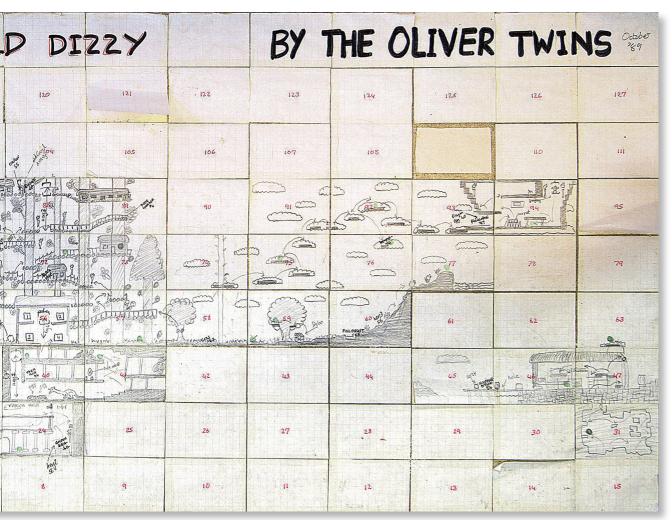




The hand-drawn map of Fantasy World Dizzy was lovingly created on 144 sheets of A4 graph paper during development and completed in October 1989.

that requires taking the Cow to the Shopkeeper in the market to exchange it for some Magic Beans. We had great fun with the Shopkeeper, making him an Aussie and putting him upside down, through a very deep well, appearing with the famous line "And, as if by magic, the shopkeeper appears!" That was inspired by the cartoon *Mr Ben*. Another classic reference is the line "I've got a hole in my pocket" delivered by Ringo as he takes a hole from his pocket that he throws on the floor and they all jump through in the Beatles' *Yellow Submarine*.'

At the conclusion of Philip and Andrew's work on *Fantasy World Dizzy* through July to September 1989 an element of friction arose, regarding ownership of the 'egg-ceptional' eggonymous hero, particularly since all indications were that it would be a big hit, as Philip outlines. 'Codemasters had started assuming Dizzy was their property because they were the publisher and had created the box art and logo. They'd even trademarked the logo, though we didn't know that then [see more in Part Three]. Our contracts



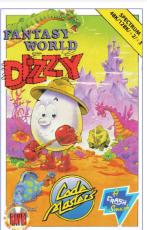
did not cover any transfer of rights... besides, initially they didn't even think it would be successful and only published the first Dizzy because after the success of *Grand Prix Simulator* they didn't want to upset us when we presented a practically finished game.'

The twins delivered a letter along with the Amstrad and Spectrum masters which stated that Codemasters must acknowledge that Dizzy was the property of the Oliver Twins if they wanted to publish the game. 'Because we knew it simply wasn't in their interest

to produce the paperwork, we put in the letter that publishing the game would acknowledge their agreement of our ownership.'

What appeared on the cassette and disk inlays wasn't what Philip and Andrew wanted at all: © of Codemasters and the Oliver Twins.

As predicted, on its release in November 1989 it went straight to number one and Codemasters commissioned versions for all the other computers. *Crash* magazine wrote: 'The Phenomenon That is Dizzy!



This is the Olivers' favourite Dizzy box art, produced by Alastair Graham.





In Fantasy World
Dizzy, the eponymous
hero was joined by a
family and other odd
assorted characters,
like the Shopkeeper
from Down Under
and a Wild Boar. The
six-inch high models
of the Yolkfolk below
were made by Andrew
Oliver in one of his
Blue Peter moments.

That ever potential omelette Dizzy is an eggstraordinary little fellow, isn't he? Created by the now "famous" Oliver Twins, he's won the heart of around a million games players, putting his popularity up among the RoboCop stakes. Now the Twins have finished Dizzy's third epic, Richard Eddy begins to wonder whether the nation isn't going completely potty!'

In a way, it was... or at least barraging Codemasters with demands for tips and help, which almost inadvertently led to the twins providing the publisher with another valuable revenue stream. It began earlier when Philip and Andrew started taking home piles of fan letters to answer them, but also many requesting help. That task

rapidly became too much for them.

'We decided to give the secretaries at Codemasters a cheat sheet so they could answer specific queries





and write individual letters,' Philip explains. 'However it wasn't long before they started to shortcut the process by sending the whole sheet to everyone who asked for any help. We felt this undermined problem solving and fun of the games.'





With Fantasy World Dizzy they came up with an ingenious answer. They broke the complete solution into a number of chapters and got their sister to record them on audiotape. This was not long after British Telecom began the 0898 premium service, which shared the cost of a call between the client-customer and BT. It met our requirement perfectly and we asked Codemasters to set a line up and print the helpline number on Fantasy World Dizzy's packaging. Months later when the game was published David told us how much the phone lines had generated. It was so

successful it added up to as much money as the royalties for the game itself. Of course Codemasters then added phone numbers for all the other games and made a fortune. In fact the rest of the industry soon followed suit.'

After some argument, David Darling was persuaded to increase the 15.5% royalty he first offered the twins of the helpline revenue on their games to 30%.

'We felt very let down by David that he wouldn't agree to the fair 50/50 split we'd originally suggested,' Philip says. 'After all they'd done very little and there was no cost of goods or any investment on their part...' And the twins had come up with the money generator in the first place. The rumbles over Dizzy ownership, which would go on, and recompense were indicative of the future.

Next: Part Three

On 16-bit, top to bottom: Amiga, ST, PC and more characters, top to bottom: Grunt, Sarge and Tinker.





part three

Attack of the consoles

odemasters was expanding so rapidly that those outbuildings of the Southam farm that had already been converted into small offices were soon insufficient. While all the admin, marketing and accounts people were employees of Codemasters, all programmers and artists were freelancers allowed to work in the offices for free, but obviously all hoping to make royalties or pick up work that was being shared around. There was starting to be a lot of

He recalls the discomforts of long stints as winter 1989 closed in. 'It was cold and windy outside, but being a portacabin meant it was noisy and rocked... and not in a good way! We practically lived in our coats. Ted Carron, one of the electronics guys, was a chain smoker – we're talking fifty-plus a day! I don't smoke. I never have and hate cigarette smoke. He'd sit next to me most of the time, smoking, which was accepted practice back then. To make





The Darlings' farmhouse at Southam, near Leamintgon Spa, the converted barns, portacabins and cold offices – the boat was for summer fun.

people around, as Philip remembers. 'The Darlings were forever seeking planning permission for further conversions and new extensions. Unfortunately, the population was outgrowing the space and a portacabin village grew up in the field behind the barns.'

matters worse, he thought it was funny to drop butts in my drinks can when I wasn't looking.'

One idea that Carron came up with in conjunction with Richard Darling was to produce a compilation of games on CD for the three 8-bit machines, a project which came with its own technical challenges since Codemasters pioneered the use of CD for games data. The first version was for the C64 and the twins worked on versions for Spectrum and Amstrad.

With the increasing workload of overlapping projects, Philip and Andrew needed to be on hand at Southam more often. 'Peter Williamson, one of the other game developers, offered that we could sleep on his floor, in sleeping bags, at his flat. The problem was, with Christmas fast approaching and technical problems on the project, I ended up working fifteen-hour days in that portacabin, living on pot noodles, crisps, chocolate and Coke.

Time was against us. The CD

and practically living in a portacabin. The November weather was nasty!'

'You couldn't write to CD in those days,' Andrew explains. 'That technology hadn't been invented, so we saved the games using a very high baud rate, 20 times the speed of the regular signal

"I hate cigarette smoke. He'd sit next to me, smoking, which was accepted practice back then."

to a high quality audio DAT tape. Then we played it back to the computer. The "Saver" and "Loader" had to be written with extreme accuracy and error checking built in. It had to allow for slight variations in signal *highs* (1s) and *lows* (0s). Once you had the tech



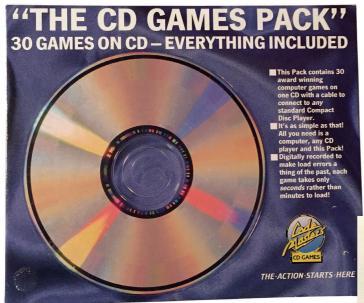


compilation disc was supposed to be the ideal present for Christmas. But we only started in November, so we were really against the clock. Every hour and every day counted. Andrew and I moved from our nice new house in Trowbridge to be on site to help and that meant working

working you loaded the game – saved it to the dat at 20 times speed, sent the dat to a company to cut a test CD, tested it, and if it passed Q&A you did the production run.

'The joystick port input acted like a cleaner digital input port, but still







The *CD Games Pack* box contained a cable (audio jacks one end, a signal converter chip and a joystick port adaptor the other), an instruction booklet and a co with 30 games.

very similar to the audio-in used when loading tapes. Initially the plan was to use the stereo output from the CD player to have one channel work as the timer and the other to act as the stream of faster data; wait for the timer channel to switch (0 to 1 or 1 to 0) and read the other channel for the data.

What Philip thought would be a simple task turned out to be extremely tricky. It was so hard to get it reliable. Different CD players at the time varied in quality. At first it was assumed they all were stereo, but some cheaper players cheated by mixing the stereo to a mono output to save money. We had to be compatible with all CD players and so reverted to a software solution that relied



Bros. on CD... Darling Bros. that is!

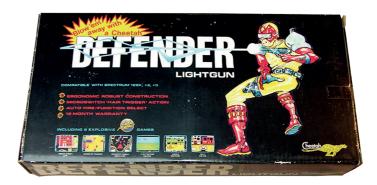
on only one input signal - very similar to loading a regular tape. Since the games typically loaded in 20-30 seconds, about 150 would fit on a single CD of 74 minutes run-time. Because Codemasters didn't have that many games it was agreed to publish thirty titles on each cd. With so much capacity each game was recorded twice in case any scratches might prevent one copy loading. In the end it took too long to master the discs. The Spectrum version went out only days before Christmas and the Darlings decided not to duplicate the Amstrad version as it would miss Christmas altogether.

In the event the *CD Games Pack* was a commercial flop. As Philip says, the timing was wrong. 'I remember saying that anyone who plays games and has the money to buy a CD player would buy an Atari ST or an Amiga, both released four years prior, before attempting to hook up their 8-bit computer to their CD player. Both STs and Amigas had disc drives and were 16-bit computers with far better graphics.'

However, today the twins are quick to point out that much of Codemasters' pioneering work was successful. 'Some of their other innovations – like the Game Genie, which was designed to allow players to "cheat" games in Nintendo's NES console (*see more below*) which was being worked on at the same time – were spectacularly successful. Remember, it's better to try and find some successes rather than be terrified of failure and try nothing.'

The advent of the lightgun provided another interesting, innovative opportunity. Hardware manufacturers Cheetah proposed a deal that they would produce a lightgun for the Spectrum if Codemasters could supply some games to bundle with it. It would have been too expensive to write games from scratch, so the project manager looked at the catalogue of games available to see if any were suitable to add lightgun functio nality,' Philip says. 'To be honest none were, but between us and some of the other programmers we managed to get some games working... to a point.

'Limited to one input, the only game we had that was halfway suitable was *Advanced Pinball Simulator*. We could make the flippers all tie together so players could sit back and shoot the flippers to make them move. To be honest, checking to see if it was pointing at the bright patches, where the flippers



were, made it harder than just reading the trigger, but it wouldn't have been a lightgun game if we ignored the direction the gun was aimed. It was a



How did the light gun work? When the player pressed the trigger the lightgun sent a signal to the Spectrum. A 15th of a second later it read the signal from the light detector in the barrel of the gun to see if it was pointing at a bright patch on the screen or a dark patch. The game blanked the screen, only leaving white patches for active areas and made a big flash. The gun worked after a fashion and 'knew' if the player had shot at the correct part of the screen.

Left: the six games included in the pack.





Shoot the flippers!
From the technical
point of view, the
only Oliver Twins
game that made
sense to bundle
with the Cheetah
Defender Lightgun
was Advanced Pinball
Simulator.

crazy idea, but a few days of coding later and it worked as well as it was going to. This together with several other Codemasters' games were packaged up and sold with the Cheetah's "Defender" Lightgun when the package was released in March 1990.'

The lights of Leamington

Long before computer games, kids of the 1950s thrilled to the flashy show every autumn at Royal Leamington Spa and the famous 'Leamington Lights'. Thousands of 'coloured electric lights' transformed the Jephson Gardens into a 'wonderland for both children

"By day we walked the convention halls, checking out new games. By night we learned to gamble..."

and adults'. Wonderland lasted for a decade, from 1951 until the press of public crowding the town's streets and

1960s' rowdy behaviour brought the annual event to a close. The Leamington Lights, of course, couldn't be a patch on the show-biz pizazz of Las Vegas. But what could Leamington and Las Vegas possibly have in common? – 1990 and the Oliver Twins.

In January they visited Las Vegas, although before they flew off the twins were associated with - for them - a new development in game delivery. Between September 1989 and January 1990 Andrew Graham at Codemasters was running a test game on the Nintendo Entertainment System (NES), which had been released in Europe late in 1986. While the console had been a slow seller in 8-bit-rich UK, it had sold more than 30 million units in the US (by comparison, by that time the ZX Spectrum had sold a little over 4 million) and the Darlings had their eye on that potentially lucrative market.

Andrew Graham chose to test *Treasure Island Dizzy*, which he had converted to Atari ST and Amiga the year before. The development kit was very basic and the cartridge didn't allow for much in the way of memory or graphics. Later, Codemasters improved the kit to greatly expand what was possible. (*Treasure Island Dizzy* was eventually released on the NES in April 1993 as a part of *Quattro Adventure*, published in the US by Camerica.) At the same time, Andrew was working on the software part of the Game Genie, a gamemodifying cartridge for the NES which

would go on to controversial success.

And so to America in the first week of the New Year, to Las Vegas with Codemasters to attend the winter Consumer Electronics Show (CES). The trip was significant in that Codemasters had cut a deal with Canadian company Camerica for North American distribution. But for the twins, Las Vegas meant pleasure as well as business. 'We were totally mesmerised by Vegas,' Philip says. 'It's an incredible place, filled with lights, noise and gambling everywhere! By day we walked the convention halls, checking out new games and new electronic toys and gadgets. By night we learned to gamble... if we could find tables cheap enough. Every table had a minimum you could bet – in those days that meant looking for \$2 tables, but often having to settle for \$5 ones.'

Andrew remembers they loved playing Black Jack best. 'But we also played a little Roulette and sometimes the fruit machines – slots to Americans who looked confused when we called



CAMERICA



them fruit machines! Though we knew it's a mugs' game it was fun and they served free drinks, whatever we wanted, while gambling.'

The hotel was hardly one of the famed joints along the Strip, as Philip says. 'Codemasters booked budget accommodation called Shalimar Hotel and Casino. It was more like a cheap

Camerica, supported by Codemasters, was to battle over Game Genie with Nintendo, the giant protecting its best selling NES.

Below: A contrast

– the budget hotel

Shalimar and lights of the Las Vegas 'Strip'.





American motel, a tatty little place down the Strip. We had quite a walk each day, either to the convention halls or up towards Caesars Palace and the Flamingo. We vowed from that first day on that we'd only book in the big casinos, which actually don't cost much more.

"Well, if any of you get lucky during your stay, we have a wedding parlour here and we can marry you the same day."

'On checking in to the hotel, the receptionist lady asked, "Do any of you nice young lads have girlfriends?" We joked and said we were all computer programmers and didn't know what girls



Right: the Nintendo version of *Treasure Island Dizzy* was mothballed — a brand new and more ambitious game would be needed for Dizzy's eventual debut on the NES.

were, or words to that effect, and she said, "Well, if any of you get lucky during your stay, we have a wedding parlour here and we can marry you the same day. It's only \$99." We were definitely in Vegas!'

Camerica had a small booth in the Sahara Hotel showing *Treasure Island*

Dizzy on NES. Although it was still in a very basic stage, Camerica had some enthusiastic feedback. CES opened the twins' eyes to the scale of the American market, that the future was definitely consoles, and that Nintendo ruled the show with its NES, as Philip says. 'We looked at all the games and most were fairly basic, and easily within our creative reach, but selling for \$49 (about £35) each and in massive volumes! We all felt producing NES games for the American market was a brilliant opportunity.'

Back in the UK, with the NES Treasure Island Dizzy at an alpha stage, Philip and Andrew thought Richard Darling's BMX Simulator an obvious candidate for a quick polish and update for the NES. But two things were soon clear: Treasure Island Dizzy wouldn't be good enough to make the desired impact on the console and cars were a better bet than bikes - so they switched from BMX Simulator to Grand Prix Simulator. In the event, like Dizzy, BMX Simulator was mothballed to appear in April 1993 as part of Camerica's Quattro Sports package. Meanwhile GPS surged ahead... but never hit the shelves, at least in that form.

'A few months into development Camerica did a deal with Galoob, a large American toy company, to increase their distribution power and help finance production of the Game Genie,' Philip says. 'We thought this was great, but David Darling told us that Galoob wanted to rebrand *Grand Prix Simulator*

as *Micro Machines*, their very successful toy range. So Codemasters would no longer pay a 50% royalty – in fact they'd pay nothing, even though our successful game had helped to get the deal. We understood the decision, but looking back on the success Codemasters had with *Micro Machines* it would have been nice to receive a token gesture. Andrew Graham did a great job. *Micro Machines* was an awesome game!'

The Oliver Twins spent the rest of January in Trowbridge, but with the challenge of bringing an impressive



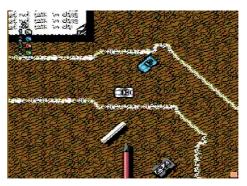
Dizzy to the NES they needed to be closer to the artists at Codemasters. 'We bought a three-bedroom flat in Leamington Spa,' Philip says. 'And we also brought Peter Williamson onto our team to create Dizzy's best game ever.' So no fantastic Leamington Lights in Jephson Park for Philip and Andrew, but with *The Fantastic Adventures of Dizzy* to create for the NES they were at least relieved of the long and wearisome car journey between Trowbridge and Southam.

Founded in 1957, Lewis Galoob Toys

Genie in the bottle

'Sadly,' Andrew begins, 'it was back to the portacabins. In the first few months of 1990 it was unbearably cold. I remember one time trying to code in ski salopettes

Founded in 1957, Lewis Galoob Toys, Inc. was a giant of the entertainment business by the 1990s, and later sold to Hasbro for \$220 million in 1998.



Left: the Oliver Twins' NES version of *BMX* Simulator and Grand Prix Simulator is rebranded to Galoob's Micro Machines.



and gloves. Other times we thought we'd be swept away like the scene from the *Wizard of Oz* while later, through the summer – we worked on the game from February through September – they became unbearable ovens. Jock, the maintenance man, was sent to paint the roofs and side walls white in a futile attempt to reduce the temperature.'

They were reluctant to abandon the UK games market where they had enjoyed so much success and decided Andrew finds it hard to program games in ski gear.



to divide their efforts, with Philip managing the development of *Kwik*Snax for Spectrum and Amstrad while Andrew headed up programming on The Fantastic Adventures of Dizzy with Peter Williamson. 'Work wasn't much fun,' says Andrew. 'It was slow and the working environment was bad, but there was a much better social life. In Trowbridge we rarely went out but got a lot of work done. By May, we decided to rent our house as it was clear we wouldn't be returning anytime soon. The original Codemasters team had money,



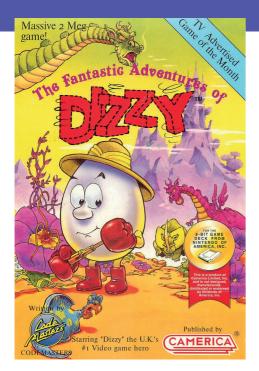
The place to be on a Saturday morning, searching the shelves for the latest game at WH Smith.





could organise themselves, and we all had a really good time. It was more like the university years we'd missed out on. We were out every night and it wasn't long before Philip and I had girlfriends.'

The joke addressed to the Shalimar's receptionist that computer programmers didn't know what girls were, wasn't really so far from the truth, as Philip says ruefully. 'We were both very shy when it came to girls, that's what spending five years making games does to you, but when I was introduced to Ali via a friend, I asked her not to mention what I did for a living. When Ali asked me I just mentioned computer programming. It was the fastest way to finish that line of questioning and it wasn't a lie. A few weeks later, in Leamington town centre, I decided it was time to let her know. "I'll show you," I said, taking her into the WH Smith store and over to the games section. I picked up a Dizzy game, and as I did so, a kid standing next to me said, "That's brilliant, that is, you should get it!" I then proceeded to tell her what Andrew and I did for a living. I don't think she was as impressed as the kid standing next to us!'



door at one end and a key at the other it would be obvious what to do, but Ali had no idea it was possible to pick up the key and use it on the door. After a few minutes I decided I had to tell her and this led directly to the idea of time-delayed prompts. If the player fails to do something after a reasonable time, a message appears to point out exactly how to do the next part. This really helped introduce Dizzy's game mechanics to casual gamers.'

The Fantastic Adventures of Dizzy was completed in September 1990, in time for a Christmas release in America, but



As it turned out, Ali had a vital part to play in an Oliver Twins innovation when she visited Philip's workplace. 'Yes, the horrible portacabin behind the Codemasters' barns. I knew how to impress a girl. I showed her an early version of Dizzy in development running on an NES. I quickly discovered that although she played arcade games, she'd never played one where a character could pick something up and use it. I thought that being shut in a hut with a

due to a legal war when Nintendo sued Camerica and Galoob over the Game Genie (see panel on page 118), its release was delayed until November 1991, by which time attention was shifting to the 16-bit consoles. The advent of Sega's Genesis (Mega Drive in the UK) and the Super Nintendo Entertainment System (SNES) significantly damaged the sales potential. 'However Game Players awarded it NES Adventure Game of the Year and it got the coveted

The Fantastic

Adventures of Dizzy

on the NES had to
wait more than a year
for the legal battle
between Camerican
and Nintendo to end.



CENTS Uningizm lets you or Bath Ninten Genie bullets

Codemasters' Game

Genie Video Game Enhancer for NES. David takes on Goliath

By Christmas 1990 Camerica planned to release fourteen Codemasters' games for the NES, boasting none would carry Nintendo's seal of approval. Camerica might have got away with it but for the unveiling of the Game Genie. 'The gizmo that plugs into your NES and lets you alter the rules of Super Mario or Batman or just about every other Nintendo game. More than 330 Game Genie codes give you extra lives, more bullets, a higher jump, more strength or whatever,' a press release claimed.

Nintendo sued distributor Galoob for violation of copyright and sought

an injunction to prevent distribution and sale of the Game Genie. For more than a year the battle raged in law courts in Canada, California and New York and Codemasters' games were caught in the legal limbo. Finally, on 2 June 1991 the CES Daily News was able to announce that: 'Game Genie Video Game Enhancer, the industry's most-talked-about, least-visible innovation, is making its long-awaited debut...' Nintendo had lost and Galoob sold over 70,000 units in less than three months.

In a press release of April 1992, Camerica's David Harding boasted that 'with the introduction of the Game Genie video enhancer, Camerica firmly established itself at the forefront of cutting-edge video game technology.' He also announced a Game Genie for

Parents Choice Award, and *N-Power* rated it at 92% – the same as *Super Mario Bros!*' Andrew adds with justifiable pride.

'We established Dizzy Enterprises Limited to emphasise our independence and with the idea of commissioning other programmers, designers and artists to develop games for us. Then we would license the games to Codemasters and



collect the royalties. Our recently retired Dad took on the role of bookkeeper and accountant and did a college course to gain the required knowledge and qualification.'

Meanwhile Philip was hard at work on *Kwik Snax*, for the domestic UK market. 'Fast Food had been a great success so I thought we should do a follow up maze-style game. I produced a design on paper and took it to Lyndon Sharp, another programmer working in one of the portacabins. I explained we were too busy on NES games, but that if it was made well *Kwik Snax* would be a big seller and we'd share the royalties.

the Game Boy and Sega's consoles later in 1992, and in praising the genius of Codemasters, hailed *Micro Machines* and the Oliver Twins for *The Fantastic Adventures of Dizzy* – both of which won awards for their innovative graphics and gameplay.



Lyndon was keen on the concept and agreed. Dizzy had to push against the walls of a maze to reshape the playing area, crushing enemies along the way with the sliding walls. He had to rescue the Yolkfolk across 24 different mazes in four different worlds. There were also 20 bonus slippery maze levels, where Dizzy couldn't move walls and had to slip and slide until he hit a wall.

Lyndon was also a fine computer composer and added great music and a fun intro screen showing all the Yolkfolk playing in a band. We worked on the game between May and October for a November 1990 release. It went on to





The Yolkfolk playing in an ill-tempered band in *Kwik Snax*.

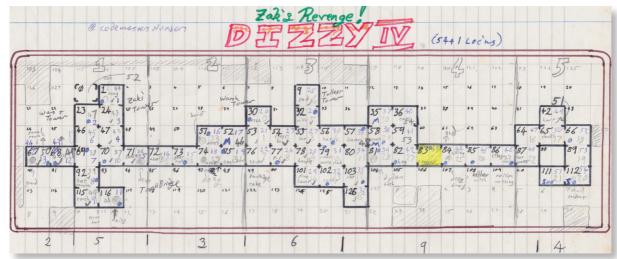
become a number one best seller and was awarded several prominent awards, *Crash* Smash and *Your Sinclair* MegaGame among them.'

Branching out and puzzling

As the pressure to invent new games – and to speed up release schedules at the same time as development schedules were extended due to ever greater game complexity – the Oliver Twins, or Dizzy Enterprises, turned to sub-contracting. For the next big Dizzy game the first people they turned to was Big Red Software, set up by Paul Ranson in 1988.

'Magicland Dizzy was the first game that we had ever contracted to an outside developer,' Philip says. "Like all new





In planning documents *Dizzy IV* was originally titled *Zak's Revenge!* before with the flick of a wand it became *Magicland Dizzy*. In Ye Olde Well on Spectrum and close to the Hot Water Geyser on the C64.

experiences it was very interesting. We learnt many good lessons for the future. We worked with Neal Vincent at Big Red to devise the story and design, and between June and December the guys at Big Red did an excellent job of creating a great game.'

The evil Wizard Zak had taken his revenge on Dizzy by imprisoning the Yolkfolk in Magicland and Dizzy had to free them all before returning home. To make matters worse, each was trapped in their own unique spell that required solving. Dylan was tangled in a bush, rooted to the spot. Denzil was frozen inside a block of ice – Zak's latest

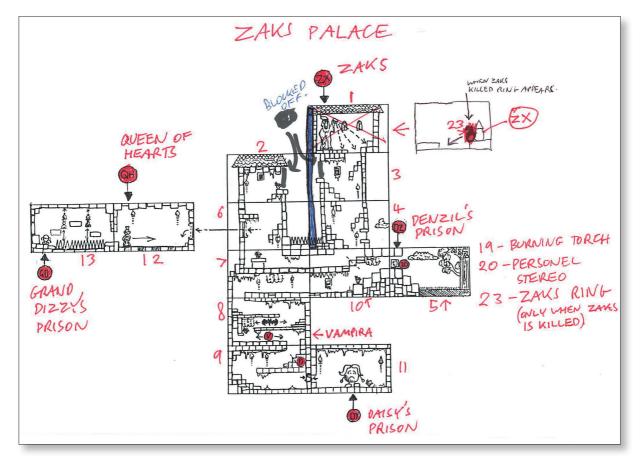
ornament for his Ice Palace. Dozy was in a magical sleep on an altar in Sleepy Hollow. Dora had been turned into a frog in the Haunted Swamp. Daisy had been super-enlarged and imprisoned in Zak's Oubliette, while Grand Dizzy was trapped in a strange world on the other side of Zak's Magic Mirror.

'It was a natural progression of the Dizzy series and on its release at the end of 1991 a huge hit.'

Nearing the end of production, Pete Ranson, Paul's brother, proposed the next Dizzy game by writing a full design and map and sending it to Philip and Andrew for their approval.







He had called the game *Dizzy Goes to Hollywood*, the title obviously inspired by the band Frankie Goes to Hollywood. Pete's concept was to have Dizzy in Los Angeles visiting various famous film sets for a spoof re-telling, but in the end the twins rejected it.

'At first we agreed,' Philip says, 'but on later consideration we felt Dizzy should stay in fantasy worlds and not be brought into a modern-day human world. I'm sure Pete was disappointed at the decision, but Big Red was quick to replace the main character

The Bard's Treehouse on the PC version of *Magicland Dizzy*, and in the Grand Hall on the Amiga.





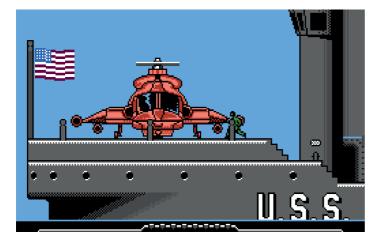




Seymour takes a ride in a limousine. Seymour Goes to Hollywood might have been Dizzy V. and proceeded with *Seymour Goes to Hollywood*, and it did extremely well for them.' And for Codemasters who published the game.

As winter 1990 approached, and with the unpleasant memory of working in the horrible portacabins at Codemasters, Philip and Andrew decided to ship their PCs and development equipment to the Leamington flat. The new 'office' was actually a corner of the living room, hardly ideal and a bit cramped, but more comfortable. And there *Firehawk* for the NES was developed, which was effectively an upgraded version of *Operation Gunship*. 'While we were

NES *Firehawk*, a fine update from *Operation Gunship*.



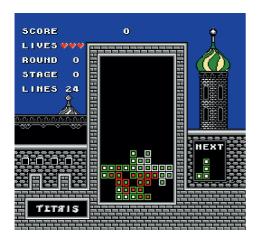
proud of *Operation Gunship* on the Spectrum and Amstrad, the lack of hardware scrolling prevented it from being slick and fun to play.

'Looking back on it,' Philip says, 'it's ironic that most of our games were converted to the C64, but not *Operation Gunship* and this would have actually worked really well. But now with the NES being similar to the C64, with the hardware scrolling capabilities, we decided to update the game and gave it the better name of *Firehawk*.'

There were also 16-bit conversions for the Atari ST and Amiga, which together with the NES version received generally high praise from reviewers on both sides of the Atlantic.

Perhaps it was the example of Camerica's official games spokesperson, young Thor Aackerlund, whose skills at *Tetris* earned him the nickname 'God of *Tetris*', that caused Philip Oliver to contemplate the essence of 'gameplay'. The word entered the lexicon in the latter half of the 1980s. 'Could it be boiled down to its essence? I pondered



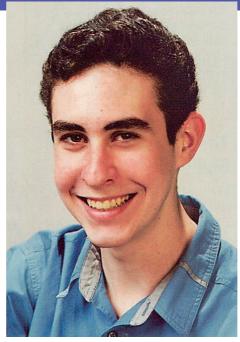


this a lot. It wasn't simply a question of the graphics, the theme or control system, as many liked to argue. We were living in the wake of *Tetris*, just re-released with the Gameboy's launch. It lacked good graphics, theme or audio, even the controls were basic – yet it was incredibly addictive: it had great gameplay and I really wanted to understand why.'

After much thought Philip considered that a large component of gameplay was similar to gambling (but with skill) and the ante was the player's time, while achievement or discovery was the reward. Like a good scientist he devised a puzzle game that removed all other factors that might influence the results – like theme, art, music, exploration and story.

'I designed *Panic! Dizzy* entirely on paper and contracted Big Red Software to make the game. They did a fine job, but it didn't really offer the player enough strategy or choice and I had only myself to blame.'

Philip decided that gameplay had to



include strategy, investment and risk-taking. And the potential reward must be communicated to the player clearly. I concluded that gameplay was rewarding players with achievements for their invested time, skills and risks taken, and should include an element of luck. From then on I ensured that we applied these principals to our games going forward.'

In December 1990, Nintendo declared Thor Aackerlund. left, their first World Champion. Nicknamed 'God of Tetris' (NES version far left. Camerica secured vouna Thor's services as their official game spokesperson. Camerica carried his portrait and wellchosen comments on the quality of Codemasters' games in advertising and on game boxes.

In Panic! Dizzy the player controls Dizzy, who works a conveyor with shaped holes left and right to line up the holes to match 3D shapes coming down four chutes. Panic! Dizzy received favourable reviews for its '20 manic levels'.





All the dangers of the river, from the eponymous rapids to crocodiles and enemies on bridges lie in wait for Dizzy on Spectrum and Commodore 64.

Bigger than Mario and Sonic

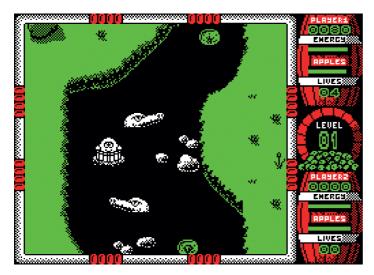
The Fantastic Adventures of Dizzy — developed initially for the 8-bit NES market — was to be the biggest Dizzy adventure yet. It was to combine lots of ideas from our original three games, but adding lots of new gameplay too,' Andrew says. We thought it would be fun to add a few small arcade-action games. The first, Dizzy Down the Rapids, was inspired by the arcade game Toobin. After completing The Fantastic Adventures of Dizzy it was clear that there still was a huge market on the 8-bit home computers for Dizzy and that this

and *Bubble Dizzy* could be released as fun Dizzy arcade games.'

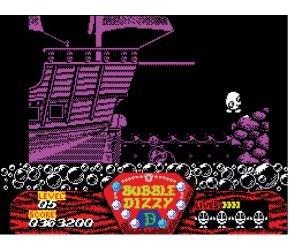
They contracted out the Spectrum and Amstrad versions of *Dizzy Down* the Rapids to Paul Griffiths, who had just become redundant when Interceptor and the Players label went out of business. He had several best sellers to his name and had written a Riding the Rapids game so he seemed like a good choice. Paul Black was given the C64 version to develop after he submitted a similar game to Codemasters at just the right time. The process was started in January 1991 and concluded by the end of March, with a release in April.

Bubble Dizzy followed on immediately, from April through October, with a November release. Philip explains how the idea came about from an earlier Dizzy cover. 'The art on the box of Treasure Island Dizzy inspired us, the Pirate having Dizzy walk the plank. Having walked the plank, how would Dizzy get out of the sea? How would this short story arc show Dizzy's skill and ingenuity in escaping his predicament? It was quite a fun game and I spoke to the Darlings about making this a full stand-alone title. They approached a number of developers and it turned into a wonderful game that went to six platforms and became a number one bestseller.'

Meanwhile, with the twins concentrating more on NES games, Big Red spotted an opportunity to produce another Dizzy game, one for which,







Philip says, he and Andrew couldn't really take the credit. 'They pitched a great concept for *Dizzy Prince of the Yolkfolk* and with the awesome job they'd done on *Magicland* we gave them our approval. It was worked on from May to October and came out at the same time as *Bubble Dizzy* in November 1991. The idea of using the tale of the lion with a



thorn in his foot was wonderful. I wish we'd thought of that! There were also other lovely story arcs and characters that were a delight. The team nailed the essence of Dizzy and we were very pleased with the result. Dizzy was at the



height of his popularity. He dominated the charts; he was bigger than Mario and Sonic in the UK. Codemasters were even discussing the possibility of a TV series.'

Sonic the Hedgehog raised the challenge of the expanding console market, with Sega unveiling its 16-bit Genesis in August 1989 in the US and the end of November 1990 in Europe,

Dizzy's walked the plank! From the seabed he uses bubbles floating up to travel to the surface, avoiding all sorts of dangerous sea life on the way — Spectrum left, Atari ST above.



where it was renamed as Mega Drive. Sega caught Nintendo on the hop by a year, since the 16-bit Super NES (SNES) only appeared in America at the end of August 1991 and April 1992 in the UK. The sales of both machines were Dizzy Prince of the Yolkfolk on Amiga and Spectrum – and 'there's a thorn in my paw'.

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Fun and beach games

Living in Leamington, Philip and Andrew were socialising a lot with the original Codemasters group. In addition to the winter ski trips of the early 1990s they spent several summer weekends boating. 'We chose to go straight down the M5 to the south coast, places in Devon and Dorset like West Bay, Seaton





The Codies enjoying a beach party at Seaton in 1989 and the 'fishing craft' speedboat.

and Lyme Regis. We had a few parties on the beach, slept there in sleeping bags, only to be woken by dog walkers as the sun rose!'

While it was fun, the Codies soon wanted more entertainment and bought a speedboat and water skis.

'We all chipped in and Stuart

Regan said he'd take care of buying one. Bizarrely he decided to spend most of the money on the engine and less on the craft itself, which looked more like a little fishing boat. As we discovered, it really flew with the engine Stu bought, but the hull wasn't built to hit waves at high speed!' On discovering the cost of mooring at West Bay, a trailer was purchased for towing the boat to the coast, which they left at the Codemasters farm when not in use. 'Richard Darling was first to fit a tow hitch on his car and allowed any of us to drive it if he wasn't going, which was extremely good of him.'

Andrew remembers often driving the car with the trailer in tow. It was scary driving Richard's car with a heavy boat on motorways and unfamiliar coast roads. Luckily I was driving slowly on a coast road once when a trailer wheel fell off. Thankfully it didn't cause an accident, but it wrote off a perfectly nice weekend trying to get it fixed.'

Two incidents prove that while the lads were 'computer whizzkids', sailors they were not. After mooring against the harbour wall in Bridgport for what turned out to be a long lunch, the boys returned to find a large crowd gazing at where the boat was supposed to be. 'As we approached we could see why,' Philp laughs. 'Our boat was literally hanging against the harbour wall. We'd not left any slack in rope and amazingly the sea level had dropped by over two metres! We were incredibly embarrassed as we pushed through the amused onlookers,

gently released and lowered our boat back into the water, climbed down and made our very slow getaway.'

On another occasion, when Andrew and Peter decided to sleep on the beach and keep watch on the anchored boat while the others stayed in a local hotel, they woke to discover the boat gone. 'Panic set in. Had we not secured the anchor well enough and had it just drifted off? Had someone stolen it? We looked up and down the beach, in case it had been washed up. We really were at a loss.' And then they spotted what at first appeared to be a bottle bobbing about a hundred yards from where they had anchored the boat. 'Pete swam out and found that it was the boat's nose! It had sunk, back end first due to the enormous motor, and some air in the nose kept it buoyant enough not to sink completely!'

After a mighty struggle to free the drag anchor they swam and tugged the craft to the beach. 'Somehow we managed to drag the hull out of the water and when the others turned up, after their nice cooked breakfasts, they were surprised to see us collapsed exhausted next to the boat hauled up on the beach!" The explanation was simple enough: the boys had forgotten to replace the small plug at the stern, which was left open when the boat was under way to drain water. 'We learned you must remember to close up it when you've drained the water,' Andrew concludes. 'After a few hours, with everyone's help we were back water skiing off the back of it.'

Incendiarism also made an appearance. 'The sun was setting and we had decided to have a barbecue on the cliff overlooking the beach, near Seaton. We had trouble lighting the fire, so someone got the boat's petrol can and poured some petrol using the siphon on the scavenged branches — don't do this at home kids or anywhere. We were sensible, and it was all done safely with no problems... until, while eating our burgers, we noticed a smell

Andrew waterskiing

- whenever the
Codemasters' boat
wasn't hanging
from harbour walls
or visiting old Davy
Jones' Locker.





of petrol. Someone had taken the can a safe distance from the fire along the cliff edge a little, but they hadn't closed the siphon tube, which was dangling over the edge of the cliff and completely emptied the can. We stood back, saying

"Our boat was literally hanging against the harbour wall."

"oops", or more colourful words to the effect. I think it was Stuart who threw a lit cigarette down the cliff and *Woompf!* The cliff lit up in a long vertical line of flames. Quite spectacular, but also pretty embarrassing and I'm glad there weren't too many people on the beach that evening – it burned for over an hour!'



enormous and threatened the viability of the Game Genie and Codemasters' unofficial NES games, but the 8-bit cart market remained buoyant. With victory over Nintendo and the Game Genie back in the market by late August 1991, Camerica finally released *Fantastic Dizzy* and *Micro Machines* in November, a year



A super new look for Robin Hood on the NES, which in turn sparked off another outing on the home computer front. later than planned, followed a month later by *Firehawk*. Approximately 1.6 million Game Genie units sold within its first year, prompting the *Toronto Star* to proclaim: 'Camerica keeps 8-bitters supplied!'

However, the truth is that had the games come out when planned, before the SNES launch, they would have sold in substantially higher numbers. At the time that was not yet clear and so with renewed confidence in a continuing NES market, the Oliver Twins looked again at past successful titles. 'This time we chose *Super Robin Hood*,' Andrew explains.

'It was a side-on action platform game, in the same genre as *Super Mario Bros*. Given the code we'd created for *Fantastic Dizzy* it seemed like an easy game to produce. Unfortunately, our cramped workspace in the Leamington flat as well as our improved social life meant we were working more normal hours. Both had an impact on productivity and it took much longer than we hoped.'

In fact, they worked on the game from September through to April 1992, but *Super Robin Hood* was only finally released as part of Camerica's Quattro Adventure bundle in November 1993.

'During the development we invited Khalid Karmoun, one of our friends from Trowbridge who had just finished an art degree at Coventry University, to come and live in the spare room. We paid him to produce artwork for our games. With three people trying to work in the living room of the flat we decided that once *Super Robin Hood* was completed it would be time to look for some office space to rent.'

Philip took the lead in talking to estate agents and visiting various properties.

An expanding world

January 1992, Las Vegas again for the winter CES, but this time staying in the more upmarket Flamingo Hotel and Casino, though a trip around the stores was a priority. 'We were able to find the games in some shops – sadly not all. Dizzy reviews were appearing and they

were averaging 90%, and *Game Players* magazine had awarded it Best NES Graphic Adventure,' Philip remembers. 'Camerica had a large stand and we demo'ed the games wearing our issued red Camerica jackets. There was a huge Dizzy costume that someone was hired to wear, but we helped when he needed breaks. We took turns... but not for very long – it was heavy, hot and *very* sweaty! Yuk!

'The Flamingo was on the best part of the Strip, the main eight-lane road which is the centre of Vegas. We felt like high rollers, but really they were staying across the road in Caesars Palace. With our games launched and it being Vegas, everyone was full of optimism. There were dinners and parties every night. Camerica held an end-of-show party with a run-down of the awards and orders received... and loads of champagne.'

Unsurprisingly, the boys were

dreadfully hung over the next day, which might not have been a problem were it not for the



booked once-in-a-lifetime flights over the Grand Canyon. Luckily, Andrew wasn't too unwell but Philip was in a bad way and would have cancelled except for the fact that he had brought his girlfriend Ali with him.

'We took the coach out to the airfield and that wasn't much fun, I wasn't feeling at all up to it. They led us to the small six-person propeller airplanes, and I still wasn't right. Now, call it brave, or call it stupid, I agreed to board the light aircraft, with another couple and the pilot. We sped along the dusty old runway, shaking so much you wonder how the plane doesn't fall apart and then we lifted off... that's when I realised this was probably a very big mistake. It wasn't long before I was throwing up into the small sickbags.



Philip and Andrew meet the real Dizzy by day – and by night, as in the previous year, they looked for \$2 or \$5 Black Jack tables in the casino. 'We saw roped areas where high rollers were throwing down \$10,000 chips, placing several per hand!'





A small six-person propellor airplane is just the best place for throwing up the morning after the night before.

Spellbound Dizzy on Amiga, Atari ST and Spectrum, right. **During development** various names were suggested: Inner World Dizzy was Paul Ranson's favorite, along with Wonderland Dizzy, Mysterious Kingdom Dizzy, and Dreamworld Dizzy. But eventually everyone agreed on Spellbound Dizzy.

The flight was about two hours and they were the longest two hours of my life. I was so sick that I used every bag and then I had to start recycling going back to previously used full bags. It was horrendous for me, for the pilot, Ali and the other couple – all they will remember was being trapped in a small enclosure with the noise and smell of my sick. So much for a romantic flight over the Grand Canyon!'

Back from CES, the Oliver Twins moved into their new offices at 115b Warwick Street, on the edge of Leamington Spa town centre, above the landlord's shoe shop. Entry was through a discreet blue door and then up a flight of stairs to a small corridor leading to three offices. These could house two persons each and beyond lay a large open-plan



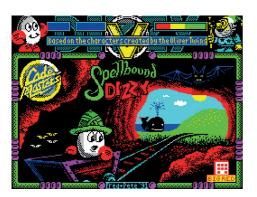
space, room enough for about twenty people. At this juncture, Peter Williamson joined the twins from Codemasters, forming his own company, Supersonic Software. They split the rent in proportion to the number of staff each had. By happy coincidence, a large Coventry-based company was relocating and offering all its office furniture for sale, which meant the new premises were furnished at a fraction of the cost of buying new.







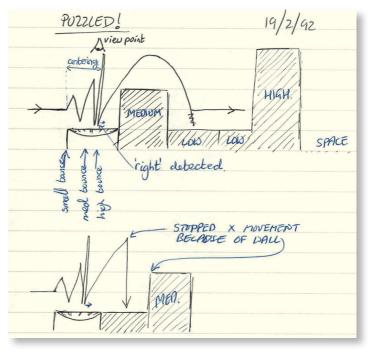
Work on Dizzy V – Spellbound Dizzy – progressed at a pace at Big Red. 'They came up with the concept and map,' Philip says, 'and I went through their designs, mostly approving all the ideas and adding suggestions.' The Spectrum, C64 and Amstrad versions were released in April 1992, while the Atari ST and Amiga versions were released just in time for Christmas 1992. Your Sinclair readers voted the



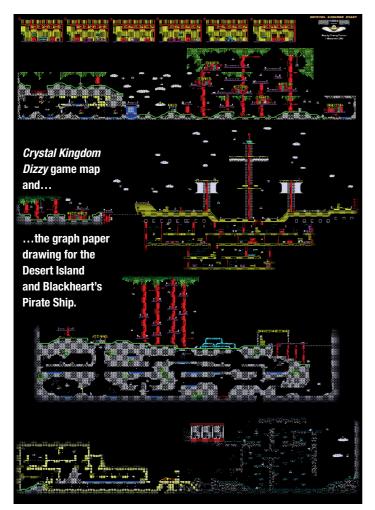
Spectrum version No. 18 in the All Time Top 100 games.

Attending CES caused a short break in work on Mystery World Dizzy - a more sophisticated NES version of Fantasy World Dizzy. This was developed between December and March 1992, but like several games at the time was never finished. Puzzled for the NES went a little further, as Andrew explains. 'I'd played the game Chips Challenge and it was fun and created interesting puzzles, which I thought could be achieved on the NES and make an enjoyable game. I defined lots of tiles to have different properties: conveyors belts, trap doors, spring traps, portals, treasures, etc. The objective was get from the start to the exit. Since we were producing a lot of games with Dizzy, we thought to use his pet Pogie as the star. Unfortunately, an urgent need to convert another title got in The spacious offices of Dizzy Enterprises and Supersonic Software at 115b Warwick Street, in Leamington Spa with furniture bought on the cheap from a large Coventry firm that was relocating.

Detail from one of several pages of notes for the development of NES *Puzzled*.





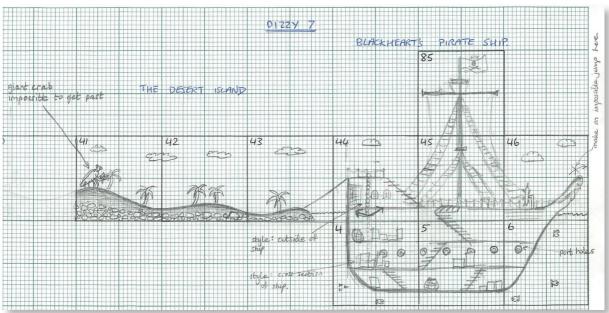


the way and this was never completed.'

Though Andrew meant to return to the game at a later date, he never did. Meanwhile, not wishing to neglect the European computer market for another Dizzy adventure, Codemasters had assembled an in-house team to produce another large adventure to an earlier rough design by Philip.

'Initially called *Dizzy and the Lost Treasure of the Yolkfolk*, it was shortened to *Crystal Kingdom Dizzy*. If the crystal sword, chalice and crown were not returned to their rightful place, darkness would forever fall upon the land of the Yolkfolk. Dizzy had to travel the various lands solving puzzles, while searching for the stolen mystical crystal treasures of the Yolkfolk. Sadly, being the last completely new Dizzy adventure, darkness fell upon the land anyway.

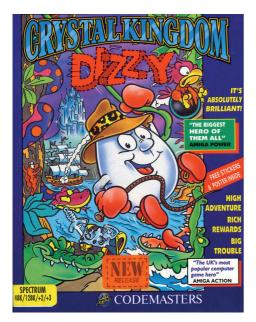
When the artwork was produced it was brilliant, with Dizzy swinging into



the center deeply inspired by Indiana Jones, but he had a tattoo of a tiger face on his arm. We both felt this wasn't right for Dizzy and didn't help the visuals of the artwork. What started as a small polite request was ignored repeatedly until we kicked up quite a fuss and it was eventually removed for the final box, but the adverts went out with a tattooed Dizzy. Codemasters decided to sell this at full price, £19.99 for the 16-bit versions, and £9.99 for Spectrum, Amstrad and C64.'

Team building

In 1992 home computers had not yet lost out to consoles in the game playing stakes, loyal owners of 8- and 16-bit machines still wanted new games to play. 'On finishing *Super Robin Hood* on the NES, we thought it would be a great idea to convert it to Spectrum, Amstrad, C64, ST and Amiga,' Philip goes on.





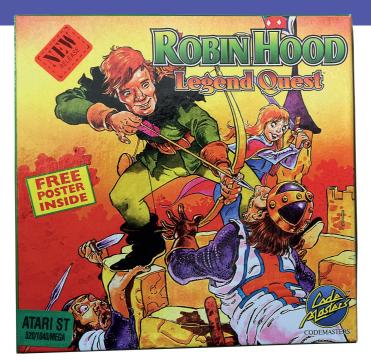
'And with our ample office space we decided we should hire employees to undertake the work, rather than using them as freelances. They would benefit from the security and we'd eventually receive the royalties which we projected would be more than the costs of their employment.'

The first was Lyndon Sharp, who had done impressive work on Kwik Snax. After completing Captain Dynamo at Codemasters he joined Dizzy Enterprises on 1 June 1992 as Senior Programmer to convert the NES game back to Spectrum and Amstrad. A week later Mark 'Beno' Bell came aboard as Senior Programmer for the Atari ST and Amiga versions and his friend Damon Redmond as Senior Graphic Artist. They had just finished working on the ST and Amiga Kwik Snax games as freelancers for Codemasters.

Philip and Andrew were a bit

For Dizzy's last completely new adventure – an Amstrad screen **above** – the artwork showed him with a tattoo on his arm, but after appearing in adverts it was removed from the game's packaging, **left**, for the final release.





The large box for the Atari ST version of Robin Hood: Legend Quest. concerned at re-releasing an old game, but as Philip says, they felt they were serving a new generation of gamers. 'Since the original *Super Robin Hood* appeared seven years earlier on the same formats, we weren't keen calling it *Super Robin Hood 2*. During development it got called *Amazing Robin Hood*, but at the last minute we renamed it *Robin Hood:* Legend Quest.'

Robin Hood: Legend Quest on the Amiga.

Project management issues at Codemasters caused the game to miss



Christmas 1992 and it was released in January at the higher price of £3.99. 'Lyndon and Khalid and done a great job,' Philip says. 'It reviewed well, but honestly the Spectrum and Amstrad market was finally finished and sales were low. Both computers had done well to last ten years, though you might not have thought so when Roy Slater attacked 8-bit games in *Computer Trade Weekly* [see panel below]. Fortunately, the ST and Amiga versions did much better.'

When it came, Camerica's win over Nintendo proved to be a hollow victory – in the intervening period many players had migrated to the new 16-bit consoles. But confident of winning, early

Never loved Elvis...

...blared *Computer Trade Weekly*'s headline on Monday 22 February 1993. Journalist Roy Slater wrote: 'After years and years, multiples are finally shedding those crusty old formats that have been hanging around since 1986. Should we be sad? No way, it's time to party!

'I'm talking about all those 8-bit formats...that means there's going to be no more Spectrum and that means no more Dizzy and no more of his friends either, we've finally broken up that particular little gang for good. The guy was well past his sell-by date. He'd had one adventure too many and now he's been retired. So let's just try and remember Dizzy when he was at his best rather than the rather sad figure we had at the end of his career. Dizzy



in 1992 the Darlings had dreamed up a great idea to give them an edge on official Nintendo games by reducing the cost of manufacturing cartridges. The ingenious solution was to put the expensive RAM video memory (which

The Dizzy Enterprises team poses outside the offices in Warwick Street, Leamington Spa in 1991 top row left to right: Lyndon Sharp, Khalid Karmoun, Joby Wood, Del Leigh-Gilchrist, Ash Hogg;

bottom row: Darren Yeomans, Paul Griffiths, Andrew Oliver, Philip Oliver.

Down the Rapids? Dizzy down the pan. Good riddance.'

The article went on to compare the 8-bit formats with Elvis Presley, better remembered in their youth than, like Elvis, 'dead on the toilet with his pants around his ankles'.

On March 8, Philip Oliver responded by suggesting that while the likes of the Spectrum, Amstrad and C64 were dead – 'and so is tape loading, thank God!' – it also looked as if the Atari ST had had its day as well. 'But look where these machines got us, the British are world leaders in this industry and employ a great number of people... the reason we have so many creative games and people is owed to the likes of the Spectrum and C64.

'As for Dizzy, well I'm pleased that

you should see it as an icon of 8-bit computer games but if you think we are going to leave it there, then you're very much mistaken...Now Roy Slater didn't like the *Dizzy* games, but that's okay, we didn't write them for him, we write them for kids. In this business you need to look to the consumers' needs and not your own – that's what we do and *Dizzy*'s success shows we're doing it right.'

One might wonder almost a quarter of a century later what Mr. Slater would say today in the face of retrogaming's huge popularity and the resurrection of so many of those 'crusty old format' games on iOS and Android...?

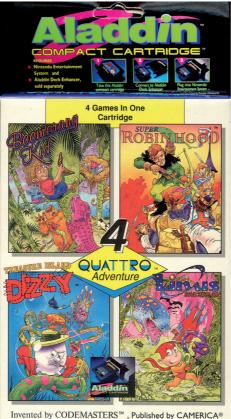






Having let the
Genie out of the
bottle, Codemasters
introduced the
Aladdin Deck
Enhancer – another
ingenious add-on.
While the Game
Genie enhanced the
performance of NES
cartridges, the Aladdin
actually improved the
performance of the
NES deck.

Right: first of the Camerica Quattro packs in the short-lived Aladdin collection, released in April 1993.



allowed for enhanced graphic content of games) and all the other electronics into one generic operating cartridge they named the Aladdin Deck Enhancer, into which cheaper cartridges containing the game ROMS could be plugged. The savings meant a game could be sold at half of its usual price. However, Camerica had to

Chips with everything

As they were not licensed,
Codemasters did not use Nintendo
to manufacture and distribute their
cartridges as did every other software
house, which would have cost them
something in the region of \$10 per
sold game. Instead they set up their
own factory in Leamington for the
purpose, which reduced shipping
times and fees, and allowed for much
faster testing – though the ROM chips
had to be burnt with the game data
in the Far East. They used a local
plastic injection moulding company

persuade players to purchase the Aladdin cartridge and opted to give away a free game with it, all for the price of a regular full-price game.

'Camerica considered Dizzy as their mascot, like Nintendo had Mario and Sega had Sonic,' Philip says. 'So they wanted to feature a Dizzy game in the Aladdin package. We had to work out what would be suitable.'

At the same time, projects were piling up across all formats, putting pressure on Dizzy Enterprises at the very moment when payments had dried up, a consequence of the Camerica versus Nintendo battle outlined on pages 118–119. In an attempt to spread the risk of having too many eggs in the stalled Nintendo basket the Darlings tackled the Sega market in the summer of 1992, especially in Europe where they had strong distribution. With their

to make the casings and another to make the circuit boards onto which the Roms were soldered. Everything came together in the Codemasters' factory. Unlike with tape duplication, rectifying mistakes was ruinously expensive, something that happened with *Micro Machines*. A last-minute bug that went undetected, threatened a rectification and a costly set of new Rom chips. However, a modification of the circuit board to add a small chip that worked exactly like the Game Genie, changing the bit when the NES requested it, saved the day.

factory, development was not an issue and, as with Nintendo they decided not to be official licensees, which would require difficult approvals and a large chunk of revenue going to Sega.

Philip quickly recognised the sense in putting their new staff on the case. 'First to convert *Fantastic Dizzy* to Master System and Game Gear and



drivers, working with Ash to port Matt Simmonds's tracker music over to use that system and "remaster" the voices for the Mega Drive sound chip (an FM synthesizer rather than the samples that the Amiga used). Beno and Damon moved onto ST and Amiga conversions of *Firehawk* with the intention to then convert it for the Mega Drive.'

Camerica, on a catch-up crusade in North America, wanted more games for multi-pack NES Dizzy releases, as Sharks on Level One of *Go! Dizzy Go!* It featured *the Yolkfolk Family in seve*ral different worlds.

Ash Hogg, Mark 'Beno' Bell and Damon Redmond.



then to agree a deal with Del Gilchrist, Leigh Christian, Joby Wood and Ash Hogg to work at Warwick Street to produce the Mega Drive version. Jon Menzies wrote most of the audio



Andrew remembers only too well. 'We hired Nick Arnott straight from college. He was with us from July to February 1993. I programmed *Go! Dizzy Go!* alongside him, showing him the tricks of









Essentially *Dizzy*Prince of the Yolkfolk,
the Aladdin freebie
was renamed *Dizzy*the Adventurer, a
more punchy title for
Americans who knew
nothing about the
Yolkfolk.

the trade. He was a nice young lad, but laughed at me when I was stressing over tracking down bugs and took pleasure finding bugs in code I'd written. In some ways it was great to have help, and he clearly was clever, but his lack of respect annoyed me!'

In effect, *Go! Dizzy Go!* took the concept of *Kwik Snax* across to the consoles, which while it made sense on the Spectrum as a sort of follow-up to *Fast Food*, needed a new name since there never had been a version for the consoles...and the whole point was to feature Dizzy in the title.

'I really enjoyed writing this game as it had a certain simplicity and elegance, and played nicely,' Andrew says. 'I particularly liked the neat, professional look of the graphics, which had been worked out to maximise the potential of the NES. As we decided we wouldn't need many block varieties we were able to dedicate a full 128 characters to background pictures. Lyndon Sharp converted the game to the

Mega Drive with Damon "up-res-ing" the graphics.'

Real life, though, was frustrating. 'People saw us as rich, but we were losing money every month and getting increasingly worried about the future,' Philip says. 'We'd made a big commitment to offices and staff at the very time Codemasters stopped paying us. We were owed about £50κ from North American sales, but Camerica was suffering financially and hadn't paid Codemasters, so Codemasters weren't paying us, pointing out that contractually they weren't required to. Other developers heard the same argument. The Darlings told everyone to hold on, that Camerica would eventually pay, but people didn't buy it. By November 1992 Codemasters staff numbers had halved and they were short of production managers. With over half the games being conversions and sequels of our games, this was only going to impact our earnings further. So when I was asked I agreed to take on

project management duties at the start of November to ensure the games were all high quality, and shipped on time.'

At this point it is worth pausing to take a step back to look at two exciting projects Philip and Andrew instigated but which – in keeping with the turmoil of the marketplace at the time – sadly never came to fruition.

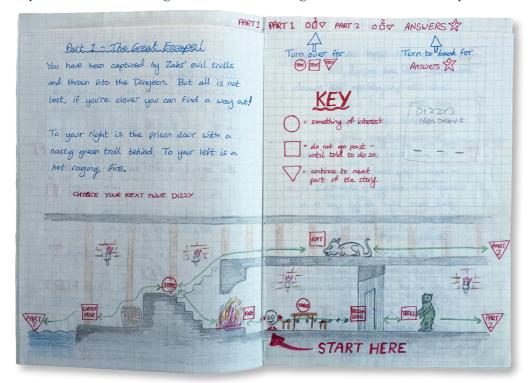
In the June and July of 1992, while working on the 8-bit versons of *Bubble Dizzy*, Philip came up with a novel idea. 'Dizzy was his height of popularity, dominating the charts, he was the most successful game character in the UK – bigger than Mario and Sonic. Codemasters were discussing the possibility of a TV series and I thought we could produce some books. We played around with the idea of a fully interactive book, taking the idea



of the "choose your own adventure" books popularised by Ian Livingstone and Steve Jackson's *Deathtrap Dungeon* series, but representing them far more graphically – like a Dizzy video game.

'Very ambitiously I decided to have moving characters and an inventory...

Die-cut Yolkfolk for the Interactive Dizzy game-book, and **below** two pages from the working schematics showing how the game would have progressed.







Above: DreamWorld Pogie for the NES had to be abandoned and plans to convert it for Sega Master System and Game Gear for a January 1994 release were never realised either. in a book. The player-reader had a sheet of card, die-cut with all the characters and inventory on it. The idea was to push out the characters and put them into the various slots in the book to set up the game-book ready to start. Then they could play a full Dizzy game inside the book. I based the prototype on the first section of *Fantasy World Dizzy* to prove the concept. I showed it to Codemasters, but they

"It was disheartening to see that we had missed the hoat."

were not that impressed and not prepared to back it, and it went no further.'

A year later, with Dizzy still extremely popular and the *Interactive Dizzy* book having failed to catch the Darlings' imagination, Philip's thoughts turned to the success Codemasters were enjoying with Game Genie. During August 1992, he worked on a concept for a Dizzy handheld LCD game.

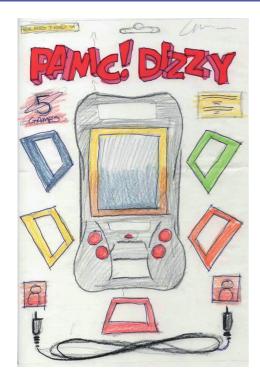
'I felt I understood what I got wrong



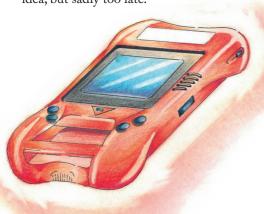
in the original *Panic! Dizzy*'s gameplay and worked out a set of games that would be fun, strategic and work on an LCD display. The game consisted of a 5x8 grid of shapes. Each position on the grid could display either a triangle, circle or solid square. It was essentially a *Match 3* game and we were pretty convinced it should work quite well. We pitched the idea to Richard and David, and once again they rejected it, arguing that they just had too many others things on at the time, which was understandable.'

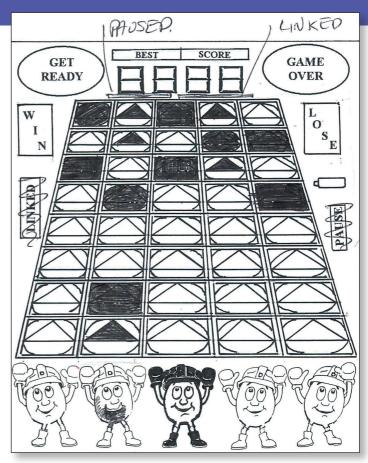
And those 'things' as well as the financial problems impacted on development. First *DreamWorld Pogie* for the NES bit the dust. It had similar gameplay mechanics as *Super Mario Bros* but with the Olivers' twist on everything. The game was almost finished when early in August 1992 it was put on hold to work on the game that was going to be bundled with the Aladdin Game Enhancer. 'With only three months development time,' Philip remembers, 'we opted for a direct but polished adaptation of *Dizzy Prince of the Yolkfolk*, renaming it *Dizzy the Adventurer*.'

After the extensive production process, Aladdin and *Dizzy the Adventurer* were



launched at CES in January 1993. Philip and Andrew enjoyed their third visit to Las Vegas but noted a lack of interest in the game. It was quickly clear that the buyers, reviewers and exhibitors had switched focus onto 16-bit consoles. The NES market was dying as the SNES and Mega Drive gained popularity. It was disheartening to see that we had missed the boat. Aladdin really was an excellent idea, but sadly too late.'





In fact the global games business was undergoing a massive transformation as cartridge-based game placed an unbearable financial burden on many software publishers who had become household names during the 1980s.

Next: Part Four

BEFORE HE
XNEW WHAT
HAPPENED,
DIZZY WAS
SEIZED BY
BORIS
THE TROLL
AND SHUT
IN A DARK
PRISON.

IS THERE A WAY OUT FOR DIZZY? CAN HE FIND AND AWAKEN DAISY? THE ANSWERS LIE WITH YOU! Above: Concept for the packging of the *Panic! Dizzy* LCD handheld game that was not to be, and the *Match 3*-style game that would have played on the screen. **Right:** Philip's 3D drawing of the handheld device.

With the collapse of the 8- and 16-bit computer games market, was there to be a future for Dizzy?



part four

Troubles in Wonderland

severely delayed in the the US, and sales underperforming due to new 16-bit consoles arriving, the anticipated royalties were not materialising. Yet with new offices and staff the bills had risen considerably. Money might have been running out but ironically the twins were deluged in work, Philip at Codemasters and Andrew running the development team in their new offices.



Atari ST *Firehawk* faced competition from a similar game also released in May 1993 – *Desert Strike* became a massive success for Electronic Arts.

'After Beno and Damon finished Robin Hood: Legend Quest on the ST and Amiga, it made sense to have them convert Firehawk to the ST and Amiga. They did a great job,' Andrew says, but it was their last. Damon finished most of the graphics and then left for Westwood

Studios in Las Vegas to produce graphics for *Command and Conquer*. The game was so successful that Electronic Arts subsequently acquired the studio.

Beno stuck it out to complete the ST and Amiga versions of *Firehawk* in February 1993, but with the financial troubles deepening he resigned. 'Sadly, that meant we were unable to produce the Mega Drive game we'd hoped for. They were both talented game developers and we were sad to see them go, but it was also a relief because we just didn't have the money any longer to pay them.'

The Excellent Dizzy Collection,
commenced in the autumn of 1992
and ready to master in February
1993, comprised five titles: Dizzy the
Adventurer, Wonderland Dizzy; Panic!
Dizzy; Mystery World Dizzy; and Go!
Dizzy Go! On home computers the
Dizzy Collection had enjoyed huge sales
and spent over a hundred weeks in the
charts. It was felt that there was great
potential for a similar pack on NES,
Mega Drive, Master System and Game
Gear, and these were assigned to Philip to
project manage.





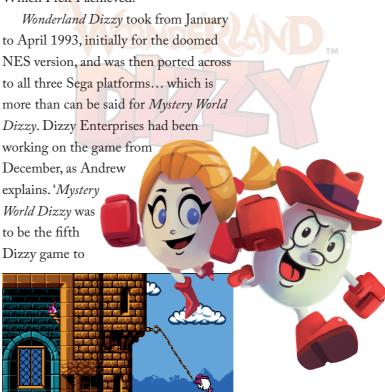
In spite of cash-flow headaches, development wasn't at a standstill. Wonderland Dizzy made it through the process to emerge on the Sega consoles – though the NES version bit the dust at the last hurdle due to Camerica's poor North American sales. In fact Camerica went into liquidation without having paid any royalties for most of the sales of games in America, meaning the twins saw hardly any royalties for all the NES games they had produced. Nevertheless, life had to continue.



'We saw we could easily plan out a game that had already been made – Magicland Dizzy,' Philip says.

'While we weren't happy with some of its puzzles," Andrew adds, 'we liked the game and fundamentally the structure was great. We wanted to ensure it had a new feature and hit on the idea of playing both Dizzy and Daisy. Each time you died you could switch character and go in two different directions in the map. I felt that if we kept this one simple, avoiding things like mini side games, I would be able to write it quickly, cleanly and make it a pretty slick game. Which I felt I achieved.'

OOZ400 THE CASTLE MOAT Left: On the 8and 16-bit home computers the Dizzy Collection remained in the charts for more than 100 weeks: Dizzy (replaced by Kwik Snax on 16-bit); Fast Food, Treasure Island Dizzy, Fantasy World Dizzy; and Magicland Dizzy. Its success suggested that a similar collection for consoles would do well too - but it was not to be.





Left: Three screens from *Wonderland Dizzy*, in which the player can be both

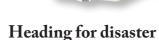
Dizzy and/or Daisy.

Brothers win computer game battle to become millionaires

Thanks a million as pair celebrate court victory

The £2m whizzkids

Computer brothers win \$2m from game giant



Nintendo lost its appeal against
Galoob/Camerica in April 1993
and was ordered to pay \$15m
in compensation for lost sales.
According to the *Daily Telegraph* the
Darling brothers shared around £2.5
million of this payout, and that on
top of £2.6m for the previous trading
year, largely from Game Genie
sales. It was reasonable that Dizzy
Enterprises should look forward at last

to catching up on owed payments, but

matters didn't pan out in quite the way

the Oliver Twins anticipated.

Since November of the previous year Philip Oliver had been acting as a production manager at Southam and encountered an endless stream of frustrations, not least his remuneration. 'I'd been working ten hours a day, and no money had been agreed for my work, so after six months – about April 1993 – I had to push hard for the Darlings to agree some kind of compensation for the full-time work I'd taken on at their request. The result was a disappointing





FERRARI TREAT

applings of luxury including fabulous homes and cars. To celebrate their court victory havid spent £74,000 on a new different. He said: "I just thought, "Why not?" I have the loney, Pve always wanted one, so bent out and bought it. It's tremendous car to drive, with a top speed of about 180mph." Bacheuit Javid also revels in agradiding, go. Acart realing trachuting and bunges jumping. He owns a four-bedroom house of has spent thousands learning to fly planes and helicopters, thing has plot's exams for the low he wants and helicopters.

complete the collection. We were running out of money but we still had some good staff and I thought we could direct them to make an updated, slicker version of our favourite Spectrum Dizzy game – Fantasy World Dizzy. We had always wanted to go back and

change some things. Hindsight is a wonderful thing and the original game was written at home with no involvement from others. Now we had the opportunity to modify the original where we thought we could make it better. Sadly this game was never finished.'

The *Sun* newspaper reveals 'Daredevil' David Darling splashed out £74,000 on a Ferrari and has spent thousands learning to fly planes and helicopters; for Richard, family is more important.

1.5% net receipts on all games that I project managed, plus I got a £10 κ advance. Nevertheless, and against the advice of others, including Andrew, I carried on to the best of my ability.'

Planning meetings became problematic. 'I have to say they were disorganised. All too often points were not defended with logic, just with emotion. Meetings frequently broke down in heated argument and people walked out if they thought they were being ignored. While there were often important things to discuss, the outcomes were fairly random and never enjoyable.'

Then there was the introduction of Richard and David Darling's GD1 (Game Design) check sheet. 'There were items like the use of the Times font in black for all legal text, regardless of resolution or background colour; every game had to have 30 secrets; have a competitive two-player mode, have a score system and a high-score table – even if only a single entry. If I couldn't tick every box, the game was rejected.



But there was no way I could get the forms for so many games compliant and every form turned into an argument.

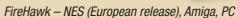
Games under Philip's management belt

By November 1993, a full year of doing the job full time, Philip had completed or was still managing

the following:

Super Adventure Quests - NES

- Boomerang Kid
- Super Robin Hood
- Treasure Island Dizzy
- · Linus Spacehead



Bubble Dizzy – PC

Metal Man - NES

Fantastic Dizzy – NES, MegaDrive, Genesis, Master System, Game Gear, Amiga, GameBoy, SNES, PC, CD32

Dinobasher - NES

Puzzled? - NES

Excellent Dizzy Collection - NES, Mega Drive, Master System,

Game Gear, PC

- Dizzy the Adventurer
- Wonderland Dizzy
- Panic! Dizzy
- Mystery World Dizzy!
- Go! Dizzy Go!

Robin Hood: Legend Quest - Spectrum, Amstrad, ST, Amiga, PC

DreamWorld Pogie - NES, MS & GG

Aarnie the Aardvark – Mega Drive

New masters for:

Crystal Kingdom Dizzy – budget re-release.

Kwik Snax - PC

Dizzy Prince of the Yolkfolk - PC

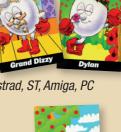
Fast Food - PC

Magicland Dizzy - PC

And a few early concepts.

This became a major reason for people leaving.'

Also, a bug-spotting bonus system for the internal Q&A team caused no end of resentment when the £10-per-bug, £20-per-critical-bug bonuses were





Left: a meeting at Codemasters.



charged back to the developers. Money and publicity was bringing in a flood of CVs from hopeful programmers,

"I was quick to point out that there were hardly any people at Codemasters with a degree..."

designers and artists to the point the reception staff were instructed to reject any applicant who did not have a university degree. Philip thought



Philip and Andrew having a quiet moment to themselves in the Dizzy Enterprises offices. Funny how much got handwritten in an electronic age...

this absurd. 'I was quick to point out that there were hardly any people at Codemasters with a degree, certainly no one at the meeting that decided this issue! I felt we should take the time to judge an applicant by their work, and suggested adding "or a published game", but I lost that argument, and it was infuriating!'

There were incidents that made Philip feel the experience he'd gained over the years was undervalued. 'Arnie the Aardvark on Mega Drive was a case in point. A longstanding in-house Codemasters team of programmer and artist – freelance, not salaried – had been working on it for a few months with no responsible project manager when it was handed to me. After a few more months I told David Darling that I had no faith in the developers or the concept, and they were pressing for advances on a game I didn't think they would ever complete. David's response was to hand it to another manager, which was fine, but then he told the programmer what I'd said and the guy called me at home, shouting obscenities. The game was retitled Smaartvark, worked on for another six months and then cancelled.'

Adding insult to injury, Philip later received a letter telling him it was his job as project manager to fix something that was broken and not to reject it.

When David Darling fired the UK sales manager for poor performance through the low summer period, Philip offered to step in until he appointed someone else. It wasn't an entirely altruistic move. 'Our game sales were likely to be badly affected. I wasn't happy about the situation, but *Fantastic Dizzy* was due for release on all the Sega consoles within weeks, so I felt I needed to do what I could to ensure maximum sales and royalties, which in turn would pay the bills at Dizzy Enterprises.

Obviously there were lots of our other game sales at stake too.'

In the following weeks Philip got to grips with release schedules and even got stuck in to pack and mail empty boxes of *Fantastic Dizzy* and *Micro Machines* to every shop selling games in the UK with a letter encouraging them to display the boxes in shop windows.

Meanwhile, back at Dizzy
Enterprises, Andrew was trying to
maintain a good working atmosphere
at a time when it was obvious to their
staff that money had just about run out,
in spite of the number of games under
development for Codemasters. 'I was
diligent in ensuring I got there for nine,
to open up and just get on and program.
It frustrated me that others would come
in later, but I let it go as long as it wasn't





past ten, but once that relaxed way of working had set in, it was pretty difficult to change. I'd always been used to working late into the evenings, but now in an office it didn't feel right. It felt like we needed a better work-life balance.'

They'd also been too relaxed over employee contracts – there weren't any. They decided this had to change and Philip undertook to implement the paperwork.

'But it did cause resentment and difficulties trying to formalise things after



they'd been so relaxed," Andrew says. 'We also tried to improve motivation with a bonus scheme. So we had meetings and set weekly targets that if they were met people would get cash bonuses. What we noticed was that in order to ensure meeting goals, people changed their expectations downwards and were super conservative about what was achievable. It didn't seem to make any difference on how hard they worked or how late they stayed to finish things.

Boys from the block: Andrew held the fort at their offices while Philip undertook his project management duties at Codemasters.

The forest elevator and the Dragon's lair from the Sega Master System version of *Fantastic Dizzy*.





Philip and Andrew were sad to lose their long-term school friend and artist Khalid Karmoun as financial pressures mounted; the three seen here with the award for Fantastic Adventures of Dizzy — Game Players'
Best NES Graphic Adventure Game of 1991.

It just had the negative side effect that people lowered their goals, which made them feel less positive – and it was costing us a lot more money too! After a few months we stopped the scheme, but that too caused a lot of resentment. These were some of the lessons we were starting to learn as managers of creative people.'

End of the tether

On 21 October 1993 Fantastic Dizzy
was released on Mega Drive, Master
System and Game Gear in Europe.
With Micro Machines in production
too, the Codemasters factory was at
full capacity to the extent that Philip
and his wife Ali put in shifts, as he
explains. 'There was a big production line,
with a few staff at each station. The first
filled the boards with various electronic
components and placed them on a rack.
When full, the racks were taken to the
solder bath. Next they were tested

before being put into plastic cases and stickers applied. Then they were placed in the boxes with several inserts, shrink-wrapped in



plastic and batched up for outer packing boxes. It was a rude awakening to manual labour on a factory production floor.'

In the Warwick Street office Dizzy Enterprises completed the Master System and Game Gear versions of the *Excellent Dizzy Collection* and they were making great progress on the Mega Drive version too... but money was running out fast and Khalid decided it was time to leave. He missed the disappointments to follow. Philip takes up the story.

'In mid October the Darlings raised concerns over the cost of Roms with the Excellent Dizzy Collection. It contained three adventures, so we cut Mystery World Dizzy, even though it was mostly finished. The release was set for 17 March 1994. A few weeks later, they decided this hadn't dropped the cost enough and on 2 November, only weeks from finishing, we had to remove Wonderland Dizzy,



leaving one adventure, one arcade and one puzzle game. Still a great collection, but frustrating considering all the work we put in for the other games. However, we thought we might be able to release those later in a Quattro adventure pack, or similar.

'As project manager, I sketched out how I wanted the box to look and wrote the text required. I worked with Natalie Griffith in Codemasters' production department to produce the final box and booklet artwork, and layout for all three formats.'

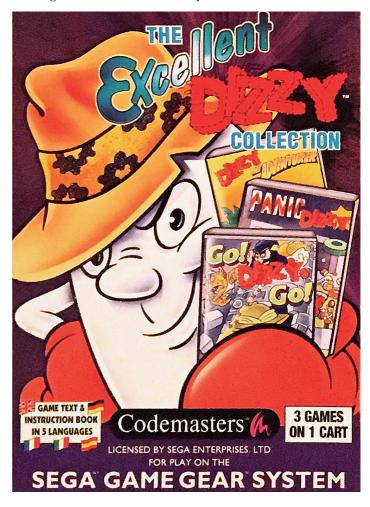
After such a long association with Codemasters, the twins were cautious about making approaches to other publishers, but something had to be done, although at first progress elsewhere was slow, as outlined later. But financial matters were coming to a head. Philip again: 'We were close to bankruptcy, so

Brokgrand a
is a keeled with
within the genes.
(Separate illustration,
maybe creded on fichent, grown-up
determined, thrusting games forward

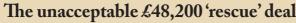
we met the Darlings on 2 March. They said they'd find a solution and a few days later David sent a fax offering a "rescue" deal we simply could not accept, and to add to the insult they offered me a £200 bonus for jumping in and taking the role of sales director for several months in the run up to Christmas. The total offer came to £48,200 and there was a line making clear this was an all-or-nothing offer. It didn't feel like help at all.'

A further meeting three weeks later on 25 March to discuss how unreasonable the offer was resulted in an agreement to advance Dizzy How do you fit five games onto one cartridge ROM? Answer: throw out two of the games so you are left with Dizzy the Adventurer, Panic Dizzy and Go! Dizzy Go!

Below: a chance to compare Philip Oliver's sketch for the box front to the finished artwork.









- £6,000 to write a rugby game on Amiga we had absolutely no interest in rugby. Richard and David employed teams of game developers, they knew the salaries, time scales and therefore the true costs, that it would cost four times the offer to write such a game.
- £20,000 advance for Excellent Dizzy

 Collection MegaDrive version we had requested £100,000, equivalent to royalties on 38,000 copies.
- £3,000 advance each for Master System and Game Gear versions of *Excellent Dizzy Collection* we felt this sum needed to be doubled at the very least.
- £10,000 to buy out of all royalties
 payable in the future employing a
 simple 'projection' this was probably
 already owed just in the Christmas sales

- that hadn't yet been reported.
- £5,000 for full and final settlement for all Philip's project management duties taking into account some payments already made, this added up to £20,000 for sixteen months full time work, when other managers were paid annual salaries in excess of £50,000.
- £200 sales bonus for Philip.
- £4,000 to buy all the rights we had in our games surely a joke?

 Years later, when we had made money from games with other publishers, and it was clear that nothing would happen with Dizzy, we asked how much it would cost to buy back the shared rights in Dizzy and were told £500,000. This was more money than Codemasters had ever paid us in Dizzy royalties.

Enterprises £2,000 per project Philip had managed, but the typed agreement never materialised, and neither did any advances.

'A fax to Richard on 9 May complaining at the delay in payment resulted in David turning up at my flat, in his Ferrari,' Philip remembers.

"Let's go for a drive," he said, "and I'll explain why we don't owe you anything."

I told him to f*** off and slammed the door in his face. Three days later a letter arrived releasing us from the exclusivity agreement, on the condition that we didn't write anything based on previous games Codemasters had published. The

letter included the obligation to pay royalties for my project management services, but also included the line "all games will be released at Codemasters' sole discretion", most of which they then cancelled or didn't release.'

In August 1994 Codemasters finally published the *Excellent Dizzy Collection* on Game Gear. The tiny run of 5,000 copies sold through instantly; there was no duplication of the Master System version. Philip and Andrew wrote, refusing to hand over the Mega Drive master unless they were paid a £20,000 advance on royalties. There was no acknowledgment. 'We couldn't





David Darling in his helicopter and with the Ferrari.

understand why they wouldn't release all three versions and market them properly,' Philip says. 'Having been in

Codemasters gets triple Dizzy cart

Codemasters has added to its successful Dizzy series with the first official triple-game cartridge for Sega systems.

Excellent Dizzy Collection will feature three totally new games, namely Dizzy the Adventurer!, Go Dizzy Go! and Panic! Dizzy.

"Excellent Dizzy is our reaction to the constant consumer cry for better value for money in video games," of-

fered Codemasters' marketing director Richard Eddy.

"With our reputation as a publisher that can offer thoroughly playable games in a value-for-money package, Excellent Dizzy looks set not only to be a smash-hit on release but to enjoy a remarkably long shelf-life."

Excellent Dizzy is due for release in April for Mega Drive, Master System and Game Gear.



the sales department, I knew there was high demand for these games.'

One thought the twins entertained was that the Darlings wanted to up-age the image of Codemasters and didn't want to publish 'kids' games' any more, which clearly Dizzy was. 'It was made clear from a comment made by marketing manager Richard Eddy: "Don't you get it? We're not interested in Dizzy anymore..."

'We felt very let down. In summary, we felt cheated. We had invested all our time and money for several years, working under an exclusive contract with Codemasters. Then, at a time when they got extremely rich, they made the surprise decision to not release most of the games that they had asked us to develop – naively, with hindsight, at our own cost.

'This left us virtually bankrupt, but with a harsh lesson learned about the importance of getting the right clauses in contracts. And that was the end of our eight-year relationship with Codemasters. We didn't speak to the Darlings again for over a decade.'

INTER CTIVE STUDIOS LIMITED

Like a phoenix

As 1993 drew to a close, Dizzy
Enterprises faced a bleak outlook.
Philip and Andrew decided to seek
other work, and more importantly
money, from other publishers as a
back-up plan in case things could not
be resolved with Codemasters. Unable

in 1997, founded
Marjacq in 1974 as a
literary agency with
George Markstein.
Jacqui quickly spotted
the opportunity home
computers provided in
electronic authorship
and founded Marjacq
Micro Ltd in 1983 to
represent the young
creators in the new
medium, including
lan Bell, David Braben
and the Oliver Twins.

Jacqui Lyons, pictured



A fresh start with Fergus McGovern of Probe Software, a powerhouse games developer.

to make approaches under any banner that included Dizzy in the name, they renamed the company Interactive
Studios, produced a logo, business cards, a company profile and flew to Las Vegas for the winter CES show in January
1994. It wasn't an entirely comfortable feeling, as Philip says.

'We were still under an exclusive arrangement with Codemasters but we had nothing to lose – if they wouldn't help us, as seemed likely, we'd go bust.'

They met many publishers like

Acclaim, Virgin, and Kemco. All were impressed at the quality and depth of their portfolio, but no work followed immediately.

The new Interactive Studios found a fairy godmother in Jacqui Lyons of the Marjacq Agency, who Philip and Andrew had met before. 'Jacqui loaned us £20,000 to pay the staff, rent and other bills after Codemasters failed to help. Andrew and I had stopped taking a salary many months before. We contacted the late Fergus McGovern of Probe Software, based in Croydon, who enjoyed a close association with Acclaim, a leading software publisher of the day. Fergus needed a development team to handle the handheld versions of the console games of the Judge Dredd movie licence. It wasn't a glamorous job, but it was good money and we needed the work to stay in business and pay the wages,' Philip says. 'We felt that undertaking this might give us enough time to pitch some new original ideas to bigger publishers.'

As Andrew remembers, it was something of a challenge. 'We did some overview estimations as to whether we could get the 16-bit console game running on the 8-bit Game Boy and Game Gear. It was essentially a levelbased, side scroller in which Judge Dredd shot bad guys in the streets of Mega-City



One. We'd be converting and reducing the size and colour of all the graphics, and with several compression techniques we felt relatively confident it would be achievable. However, we quickly realised that playing this game on a handheld was quite different to playing it on console with a television screen.

'You had to dodge when people shot at you, and when the screen moved the action blurred so you couldn't see the bullets. We asked if we could redesign the game a little to make it flick-screen but the contract said it had to be a straight conversion so that's what we had to do. We made the bullets bigger and slower to try to ease the problem, but we didn't believe the game would play properly, especially on the Game Boy. With that said, this was a common problem with many Game Boy titles because the screen wasn't very good at displaying dynamic scrolling games.'

There was also the issue of battery



life on a big game, particularly with the Game Gear. 'The only "save game" points were at the end of levels, and they were designed to take at least fifteen minutes each to play. We suggested breaking the levels into smaller sections, but again were refused. The Game Gear drained its batteries so fast that unless there were fresh ones at the ready, there was a good chance the player wouldn't be able to finish the level, meaning the game could really only be played with the handheld plugged in... hardly the point.'

Andrew worked full-time on the project with Paul Griffiths and Lyndon Sharp and wrote the main graphics engine. He feels that working with tiny screens and having to wear glasses for the first time was no coincidence!

'However, I didn't end up seeing the game to the end as I was pulled off half way through to write another game that Philip had secured. Lyndon had a car accident and decided to quit, leaving Paul to finish off the two games. He lived in Croydon for several months, working at the Probe offices to finish them on schedule.'

Judge Dredd on Nintendo's greyscale Game Boy, in contention with the infamous Perp Taker in all-singing colour on Sega Game Gear.



Richard Browne, project manager for external titles at Domark.

Marko on the Mega Drive, a world map and out on the street with his football. The evil toy factory owner has created gunk that turns people and animals into mutant sludge monsters. Luckily, when Marko's football touches the stuff it gets magical powers, giving him the ability to stop his evil nemesis.

Back on their feet

At some point back in March Jacqui had introduced the twins to Richard Browne at Domark. The lead programmer of *Marko's Magic Football* on Mega Drive had left towards the end of development and Richard had no one to finish it. Andrew ended up living out of a hotel in Battersea, working in Domark's basement offices.

Andrew reconstructed the game, solved some of the fundamental issues with it and mastered it. Since it had gone so well, he was asked if he'd enhance Marko for the Mega-CD as well. 'The main additions were cartoons between levels, a little like the cartoons we'd done for Fast Food. One featured a flash guy pulling up to a petrol pump in a red sports car and throwing his cigarette stub out of the window, causing the petrol pump to explode as he pulled away. Sega rejected the master because the game depicted smoking, we'd have to up the age rating and put a warning on the box. It was ridiculous - smoking wasn't really depicted and in fact showed



cigarettes in a negative light. Sadly, that didn't wash with Sega, the cartoon had to be modified and the master resubmitted, which caused additional costs and delays.'

The Mega Drive game was released in 1994, the SNES and Mega-CD in 1995, but before they appeared Interactive Studios became involved two more products for Domark. They had acquired the rights to convert







two popular PC games developed by Bullfrog, *Syndicate* and *Theme Park*, to the Mega Drive and now wanted a Mega-CD port. 'Bullfrog were too busy on their next projects and, having just written *Marko*, we were the obvious choice,' Philip says. 'Because of potentially limited sales there was a small budget, so we decided the best



features to enhance the CD version of *Syndicate* were all the PC video sequences that had to be left out of the Mega Drive version. We wrote a video compressor and a playback module to convert the videos to our format and mastered the Mega-CD game.

'We were credited with the Full Motion Video (FMV) sequences – a term that was massively over used back in the 1990s and stuck for ages, much to our annoyance. Due to the technology, it



was anything but FMV! It was much less than full motion, really only low quality video. In those days it tended to be fitted to a smaller screen, often letter-boxed; it was not full colour (8–256 colours, not Mpeg) and had a low frame rate (typically 15fps). FMV was technically incorrect and we never understood why people didn't just call it video.'



It came as a massive shock to Andrew on moving from assembler code to compiling *Syndicate* and *Theme Park*. 'The code was monstrous, it had hidden libraries I couldn't penetrate. They were programmed in very inefficient C, and other modules in linked assembly, with barely any structure to the variables and data, and a blatant disregard for memory. I'd gone from counting bytes – using 4κ RAM, 16κ ROM game code and chunks of 16κ for graphics and data – to

Syndicate with its isometric perspective and the 'Full Motion Video' interludes that were not really FMV.





Theme Park ran into trouble with the Midland Bank.



A dark atmosphere in Firo & Klawd. Firo the orange ape and Klawd editing and compiling several tens of megabytes of code in various formats and programming languages.'

Theme Park's release ran into a delay caused by a sponsorship problem, as Andrew explains. 'Midland Bank's logo was to appear on the loading screen, but on sight of the master they informed us that the bank was being rebranded. We didn't know what to do and never got confirmation. After a wait, we sent the master back with the logo removed and it was rejected. The terms of the contract insisted the Midland logo had



to appear. We were at a loss as what to do. Then came the announcement that the Hong Kong and Shanghai Banking Corporation had bought Midland and all the banks would become HSBC. So, we asked if we should change the title screen to say HSBC. Domark said no to that because Sega had just approved the unbranded version.'

Life in the video gaming fast lane is never simple, and it was just about to get even faster. Philip sums up the conclusion of the first phase of the Oliver Twins career and outlines the aftermath.



'It was 1994, the World Wide Web had just been invented and popularised the use of the internet, and businesses had started communicating via email. Mobile phones, not ones the size of car batteries were just starting to arrive... but still no text messages. Very heavy laptops with colour VGA (640x480) screens became available. Non-Volatile memory would arrive for computer games ushering in the common use of the save-game feature, first in the PlayStation, which Sony introduced to the market after falling out with co-developers Nintendo.

'In May 1994, working with Jacqui Lyons, I pitched an original game for PlayStation called *Firo & Klawd*. We were asking for an ambitious £500,000 advance on royalties – pretty near what Codemasters had ever paid us across all the years we worked with them – to support a team of about twelve over eighteen months. We secured a deal eventually with music publishing giant BMG after deals fell through with Sony-Psygnosis, Virgin and Phillips.

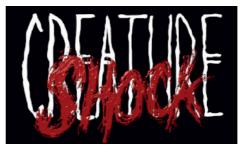
'Following this deal, we abandoned Nintendo and Sega and fully backed the PlayStation as a fresh starting point. We felt Sony had got a lot of things right.





In October 1995, Philip was obliged to correct an erroneous statement made in a September issue of Computer Trade Weekly in an article headed 'A Giant Awakening', which had said that Interactive Studios was a new company formed by the Oliver Twins of 'Dizzy fame'. Philip wrote: 'As a company, we have been trading since 1990, but due to an exclusivity to Codemasters our efforts were very much suppressed. This ended eighteen months ago and we are now employing some fifteen people and have already finished our first Saturn and PlayStation game (Creature Shock) with an original title for the PlayStation due out in the first half of 1996.'

With so much talent and hard fought experience they were perfectly positioned to become pioneers of PlayStation games - and to see their business grow rapidly and successfully over the following years.



A street shooting in *Firo & Klawd*, PC screenshot. In spite of appraently dark themes, the game is humorous.

Left both:

Creature Shock –
Blitz employees
Paul Griffith and
Tony Povey converted
the PC version,
originally developed
by Argonaut Software,
for PlayStation and
Sega Saturn in 1995.
Virgin Interactive
released the game in
the following year.



Games for a global market

PlayStation years and what has occurred since is another story for the Oliver Twins but beyond the scope of this

book. However, it is worth finally bringing matters up to date with a brief glimpse of what a further two decades of hard work and many original games and conversions have brought. Those fifteen staff mentioned in *CTW* were just the start, as Philip says. 'We hired some great people – some are still

working with us twenty years on – and Interactive Studios grew fast. In 1999, with around a hundred staff, we renamed to Blitz Games. Blitz went on to become one of the UK's biggest independent

development studios, with around 230 staff at its height. We worked with many global publishers and our games sold around the world with many games selling into the millions.'

In September 2013, hard hit by industry changes and the demise of several clients, Blitz Games went into voluntary liquidation after struggling to raise money to support future development. It wasn't the end...

With the help of Smilegate, a South Korean MMO publisher, together with Richard Smithies – a friend of Philip and Andrew's since they were all teenagers – the three established Radiant Worlds, based in Leamington Spa. Together with staff from Blitz they began work on *SkySaga* (at the time of writing in 2016,

The three founders of Radiant Worlds: Philip Oliver, Andrew Oliver and Richard Smithies.





part five Reflections on a decade

hen they look back on the ten years of their formative business years 1984 to 1994 are Philip and Andrew Oliver proud of their achievements?

'Had we managed to start a couple of years earlier,' Andrew says with a wry smile, 'we would have been a lot richer, since by the time we joined the only way we could get our break was at budget prices.'

'Yes, we thought we were too late to the market, but we still made sure to make the most of the opportunity available to us. There are no regrets,' Philip insists. 'Looking back, of course we're proud of what we achieved, though clearly we have a few key people to thank for that, like our parents for their support in buying expensive computers in the early eighties, Godfrey McCann for helping us with assembler, and Terry Hall for convincing our parents we should take a year out before going to university. Like many others, at the time we didn't see how going to university would have benefited

us. We wanted to make games and couldn't see the appeal of any courses that would help our ambitions.'

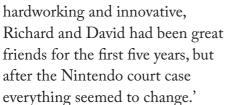
However, further education of a kind pursued the Oliver Twins in various ways, from their own drive to learn and experiment to their being embraced for their achievement by educational establishments. In the 'world of hard knocks' they learned about business the hard way... on the job, as Philip says.

'We may have been young, naive and always optimistic when we left school, but we soon learned that the phrase "it's nothing personal, it's just business" sums up nicely how many publishers treated developers. We viewed others through the lens of our own innocence and hadn't fully appreciated the precarious position we'd put ourselves in; and the fact that we'd left ourselves without a negotiating hand – and if you have a weak negotiating hand, you'll generally get exploited.'

Is that how they now feel about Codemasters?

'We always understood the enormous pressure and stress the Nintendo business must have caused Richard and David. What we didn't expect was the way they changed when they won. It's often said that winning the lottery or coming into large sums of money can change people, and not always in a beneficial way. Intelligent,





How many games is a lot?

Philip and Andrew may not have pursued an academic career, but academe pursued them, first in 2004 when Clarendon Academy in Trowbridge – their old school – named a new facility The Oliver Building in their honour, and four years later Coventry University awarded the twins honorary doctorates, a happy irony given their avoidance of university careers.





'Today there are many courses teaching the skills required to make games,' Philip points out, 'but a burning desire to want to make games is the most important attribute of the aspiring games developer. It's not about being addicted to playing them, it's the determination to keep learning – as everything is always changing. It's a lot of work, it can be slow going, but the end result can entertain thousands – even millions – of people – if you really get it right.'

And as the young-adult programmers they once were, they got it right many times.

'Doing the research for this book

Left above: Philip was awarded an Honorary Doctorate of Business Administration and Andrew received an Honorary Doctorate of Technology.

Above: The Oliver Twins attend the commemoration of a building named in their honour at their old school.





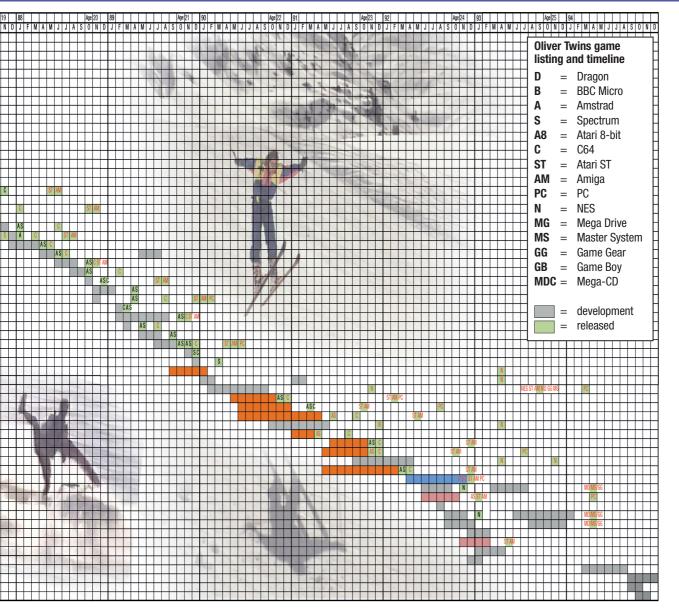
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reminded us, to our surprise, that we really did make a lot of games,' Andrew says. 'The most intense time was the five years between 1985 and 90 when we actually created twenty-five Amstrad and seventeen Spectrum games – forty-two games!' he adds, proving his mathematical skills. From those Amstrad titles nine conversions or

sequels followed and they and the originals resulted in fourteen #1 bestsellers; of the Spectrum games and twelve conversions or sequels twelve were #1 bestsellers.

'We were working an average of sixteen-plus hours a day, seven days a week for those five years. We're pretty sure that makes us the most prolific developers by volume of



sales and number of games for the Amstrad.'

Neither Philip nor Andrew expresses much surprise over the likelihood that they were also the most prolific developers on the Spectrum too – but they always thought they were too late to write anything for the Spectrum when they first got it and that does

bemuse them. Andrew runs out of tick-off fingers.

'We didn't write anything for the C64, but others converted twenty-three of our games. We didn't write any ST or Amiga games, but fourteen of our games were converted for both machines. We didn't write any PC games, but eight were converted for that







Shigeru Miyamoto – creator of *Mario Bros, Donkey Kong, The Legend of Zelda, Star Fox, F-Zero* to name a few, sold just a few more games than the Oliver Twins.

Photo by Vincent Diamante

platform. We even wrote games on Dragon 32, BBC B, Mega Drive, Master System and Game Gear during that period, and personally created eleven NES games. Now we don't have much data on NES games... maybe we were most prolific developers by the number of games we wrote on the NES too? But Shigeru Miyamoto definitively beats us on volume of sales – and his were better than ours too!'

In fact, with so many games for so many 8-bit platforms, the Oliver Twins are probably the most prolific 8-bit game developers in the world.

'Interestingly enough,' Philip takes up the statistics, 'during 1989 Codemasters' market share grew and at one point it peaked at around 25%, with most of their sales still attributed to our games. Over the next few years this was to rise and fall but we found a Gallup chart from March 1991 giving Codemasters 19.8 % of the market and there's enough information to show that 15.8% of all games sold in the UK were ours – either directly written by us or conversions!'

We'd rather a bit than a byte

As the previous chapters make clear, Philip and Andrew taught themselves programming through experimentation.

'We didn't look at other programmers' code and the few books we had didn't really show techniques, just the use of individual instructions. As a result we discovered many unorthodox coding methods: some bad, some very good,' Philip says, and Andrew explains:

"To achieve maximum efficiency with limited memory, we counted every byte of code and every clock cycle in basic routines like sprite printing. We focused on tight data structures, often combining bits

Brothers in Business

It's notable that in the British games software business, brothers often dominated in those early pioneering days. It seems siblings bring advantages, and twins enjoy even more. In the early 1980s our competitors were not organised teams. In the most part they were individuals working from home, whereas we could split the cost of an expensive computer. Being of the same age/skill level, we could challenge each other, first in the games, but then in making them. We could work collaboratively, automatically doubling the speed for research and development. We could brainstorm issues efficiently – both knowing the problems without having to

into bytes of data-structure to save every last scrap of memory. We used tricks such as loops, always counting backwards, because testing for zero was faster than testing for a number. If we wanted to use a zero we used the single command 'XOR A' instead of LDA #0, because it saved one byte of memory and one clock cycle. If we had a loop of less than 4 and required speed, we unwrapped the loop and just copied the lines of code for the required times. We arranged routines that were used intensively in an order

that placed them next to each other, so that we could use Jump Relative, rather than Jump Absolute, since it was faster and saved one byte of memory.'

'We wrote routines with the idea of making them flexible and re-usable. Other programmers criticised us for this generic code, arguing game-specific code should always be written. We wrote our code in such a way that – slotting in a few different routines – we could compile it for a different computer than it was originally written for.

explain everything in detail. Being twins, we think similarly enough that documentation and long explanations weren't required. With very few words we knew exactly what the other meant. We could praise each other, when the other did something clever - which was motivating, and not "hollow praise" (the sort of praise someone gives when they don't really understand what you've achieved). We could drive each other on: everyone has days they don't want to carry on with something tough, or they lose sight of the final vision. Two brothers can carry each other through the low times better. And in the end, as a team we were writing games in one to two months, while others took six

months to a year to do about the same amount of creative work.'

Well over half of the really successful game development companies of the 1980s were set up by brothers close in age.

Codemasters - Darling Brothers (sold to investors)

Rockstar – Houser Brothers
(sold to Take Two Interactive)

Ultimate Play the Game / Rare – Stamper Brothers
(sold to Microsoft)

Jagex – Gower Brothers (three of them –
sold to investors)

Rebellion – Kingsley Brothers (still independent)

Reflections – Edmondson Brothers (sold to Ubisoft)

Sports Interactive – Collyer Brothers (sold to SEGA)

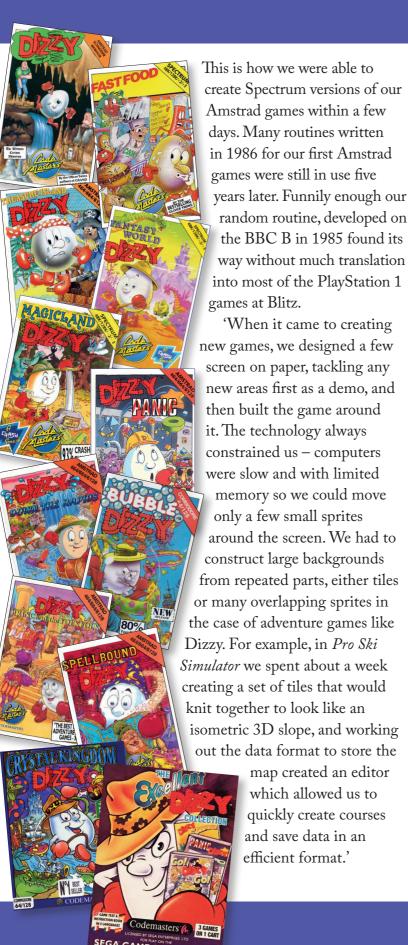
Big Red Software – Ranson Brothers (sold to Eidos)

Optimus / Acclaim North – Falcus Brothers
(sadly went out of business)

Supersonic – Williamson Brothers (still independent)

Zed Two / Zee 3 – Pickford Brothers
(still independent)





Putting the audience first

They also learned on the job that the old saying 'the customer is always right' is no empty maxim. Philip is adamant that, 'It means you listen to the customer and you think about what they want. One thing that set our games apart from many others was that we never forgot who our audience was... and it wasn't us! So many programmers were designing games around what they liked: mimicking arcade games; writing something no one had done before; making games really hard for the sake of it. They thought that if they liked it, lots of others would too, and they were often wrong. While their coding skills may have been brilliant, their games and sales were poor.

'We were making games for players. Our initial market was the latecomer to 8-bit – often budget – games, not the hard-core player. They had already moved to 16-bit games for the Atari ST and Amiga. We identified our audience as kids aged eight to twelve and designed our games accordingly. Whether it was an aspirational subject, a sports game or a cartoon fantasy world, our challenge was to make it as entertaining as possible for the players that we thought would buy it.'

Another popular misconception is that Philip and Andrew were/are



naturally adept at playing their own games. 'Actually, it's not true,' Philip insists with a smile. 'The people who bought our games are the experts. We were too busy writing games, not playing. When they came together right at the end, we played enough for bug testing, usually less than a day. Since we



were always on tight schedules, often self-imposed, the minute we decided it was bug-free that was the last we ever played it. Deliver to the publisher and move on. As for playing other people's games, we dabble to see new ideas but not for enjoyment – more a case of research. We believe our time is better spent making games rather than playing them.'

Do they ever look back and wish they had done things differently or tried harder?

Philip speaks for himself and Andrew when he sums up. 'No, not really. Even our long relationship with the Darlings and Codemasters was an overall very positive experience. It's a great shame it was tarnished at the end. Time is a healer, however, and while we've not seen Richard for many years, we'd like to consider him a friend and hope he would think the same of us. We see David from time and time and we talk of the old days - but only of the good times, of the current industry and of various opportunities and threats. Taken in all, we've had high times and low times, but overall it's been great fun and we're still just as excited about creating great games as we've ever been. It is a fun and rewarding career and we hope this book will help inspire people too.'









nyone who went to school in the UK in the 1980s will no doubt remember playing games on the BBC Micro when they really should have been doing homework. But we doubt that many of you will remember *Cavey*, an obscure game from the Oliver Twins and budget label Players software. This is a great shame as *Cavey* is right up there among the more interesting games for the Acorn engineered micro.

At first glance it appears to be nothing more than a *Galaxian* clone, but a deeper look will reveal so much more. The only way you can take

out the attacking pterodactyls is by picking up a spear and throwing it at them. After each throw you have to collect another spear or wait for the existing one to land.

Another interesting feature is that those flying reptiles are not the only objects that can kill you. What goes up must come down and if our caveman is careless enough to be underneath his thrown spear when gravity takes control and it comes down he can also be impaled by his own weapon! On its higher levels *Cavey* is a real challenge.







Commodore 64, Atari ST, Amiga







Oliver Twins produced for Codemasters after they were offered £10,000 (this turned out to be an optimisite estimate based on future royalties of 13.5p for each copy sold). It took just one month to produce and ended up selling far better than the Codies ever expected and the Oliver Twins legacy really began.

Debuting on the Amstrad CPC with other versions soon following, it's a flick-screen arcade adventure where you control Sherwood Forest's favourite son on a mission to save Maid Marion from the grip of the evil Sheriff of Nottingham.

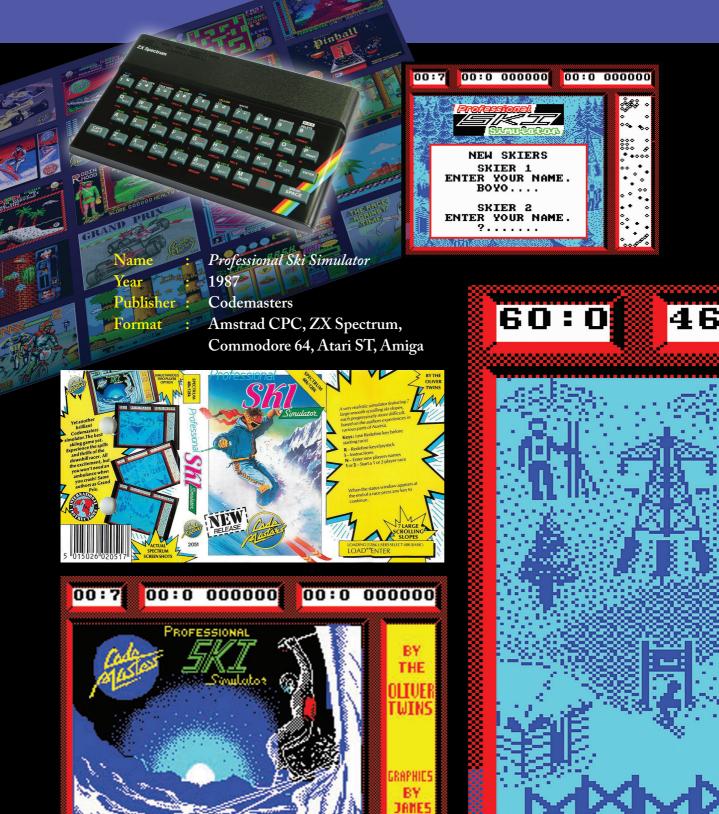
She is being kept in the castle tower, so you must negotiate your way through the many rooms taking out the Sheriff's soldiers with your trusty bow and avoiding the many traps he's put in place to stop you.

Along the way you will also need to collect keys to open doors and find food to replenish your health. *Super Robin Hood* remains a favourite among Codemasters collectors to this day and it's easy to see why with the attractive graphics and great music enhancing things even further (oh and the Twins' mum being the voice of Maid Marion).



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Thile no sport was seemingly safe from the Codemasters Simulator experience, *Pro. Ski Simulator* was definitely more interesting than most since it featured some really unique concepts that set it apart from other titles of the same genre.

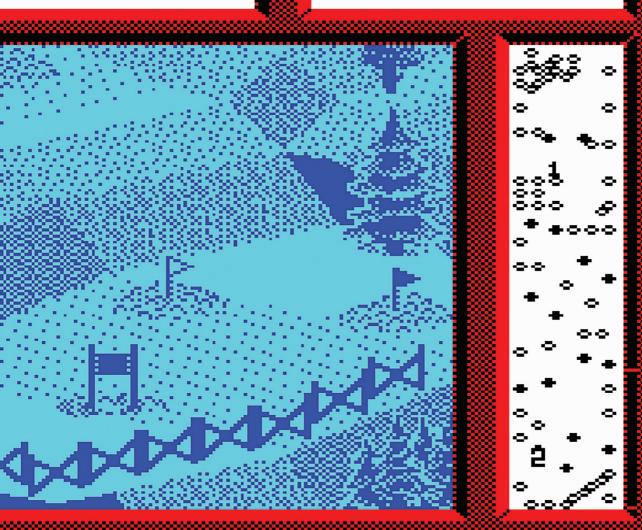
Firstly there are the pseudo 3D isometric visuals that mean you can see more of the world around you in much greater detail. Then there is the way you play the game – battling against both another player and the clock to be crowned king of the piste. If you manage to beat the time

limit then both players are awarded points based on how many flags you passed correctly and how quickly you finished. A handy high score table ranks your overall proficiency once all seven courses have been completed.

As the game progresses the courses get harder with sharper turns and more obstacles, thankfully there is a very handy map in the right hand panel to help plan your journey down the slopes. *Pro. Ski Simulator* is hard to master but ultimately very rewarding.

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hat more can be said about Dizzy? It's the game that set the Oliver Twins on the road to stardom, but it's not well known that Dizzy didn't get off to the greatest start. Codemasters were against even publishing it at first and the initial poor sales of the game prompted David Darling to turn up to work wearing a T-Shirt saying 'I told you so!' But after the game entered the charts and stayed there for no less than six months, the Oliver Twins were proved right. The game that started it all for the charismatic barrel-rolling egg Dizzy is

a sprawling flick screen puzzle orientated arcade adventure that pretty much started a whole new genre with which Codemasters would become synonymous.

The only way to complete the game is by finding the right objects and using them in the correct places. The puzzles range from simple to downright fiendish making Dizzy a game that is very approachable in the beginning but challenging in the longer term, a perfect mix. And hey, who doesn't love a happy egg?









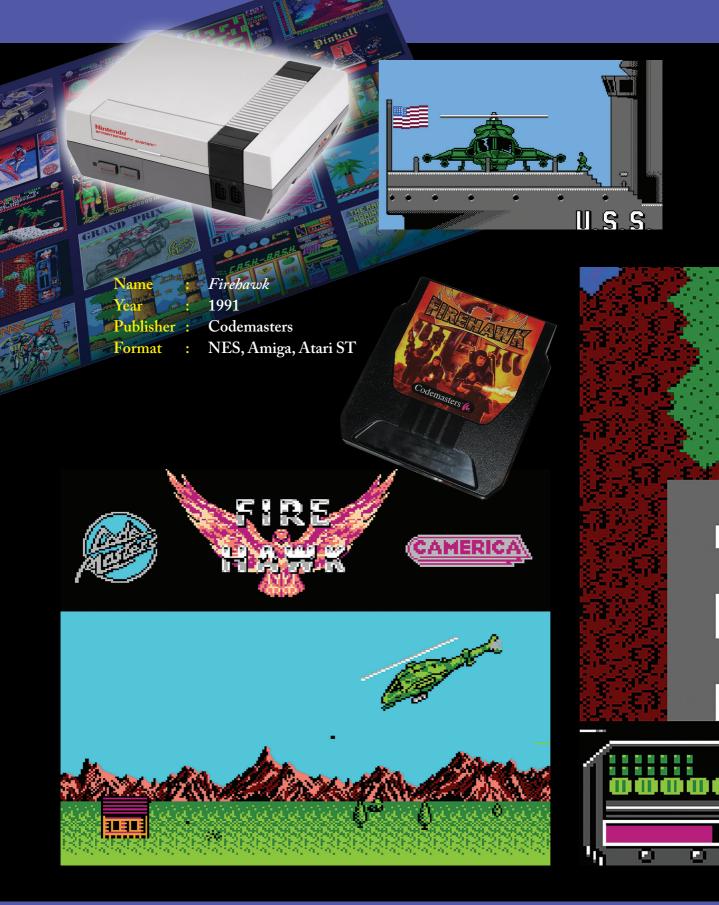
antastic Dizzy is more than just another game for the egg-shaped hero, it's also the first time he appeared on a console – the Nintendo Entertainment System, with various Sega versions following later on. Fantastic Dizzy was also unique in that it brought mini-games to the Dizzy brand for the very first time.

Some of these went on to be standalone games in their own right such as *Bubble Dizzy* and *Dizzy Down The Rapids*. Another feature of *Fantastic Dizzy* was that it was no longer just about solving

puzzles, in something more familiar to fans of console platformers he also had to collect all 250 stars scattered around the game. Those who grew up on the 8-bit computer *Dizzy* titles would also be pleased to see the addition of scrolling to replace the sometimes frustrating flick-screens of the original games. *Fantastic Dizzy* was really well received by the press at the time, winning several awards including the prestigious NES Adventure Game of the Year 1991.







Twins' earlier titles, the incredibly innovative *Operation Gunship* for the ZX Spectrum and Amstrad CPC. Although it initially looks like nothing more than a standard vertically scrolling shooter, it's more clever since instead of being restricted to moving in a single direction there is a 360° scrolling environment in which there are ground and air targets to take out as well as the hostages awaiting rescue.

It's this preservation aspect of the mission

which adds a whole new element to the game. When a rescue is initiated the view switches from an overhead angle to a third-person perspective with you viewing the helicopter from behind while you lower a rope to save your compatriot. As you do this enemy copters attack constantly so you must use the targeting system on your chopper to take them out. Excellent 16-bit versions of *Firehawk* were also released for the Atari ST and Amiga.







he fourth game in the Dizzy series debuted in 1991 and follows straight on from where *Fantasy World Dizzy* left off, with our egg-shaped hero being thrust into a new quest to rescue six of his friends from the clutches of the evil wizard Zaks.

In keeping with the game's title, each of your friends has been put under a spell by Zaks and Dizzy must find a way to free them. The different parts of Magicland are based on various myths, legends and fairytales that even sees a version of the famous Stonehenge make an appearance.

Dizzy must also enlist the help of other characters to help him along the way, including the Queen of Hearts, King Arthur and Prince Charming, with each having their own purpose.

Although *Magicland Dizzy* didn't really add anything original to the series it won plenty of plaudits for its slick design and attractive visuals in both 8-bit and 16-bit form. In fact *Your Sinclair* voted it the 12th best ZX Spectrum game of all time in their 2004 commemorative issue.







avid Darling was once quoted as saying that their simulator games sold ten times as many copies as their regular titles, and of the many sim games that Codemasters produced, *Advanced Pinball Simulator* is without doubt one of the best. It's also notable for being one of the few games that Codemasters ported across to the often overlooked Atari 8-bit computers.

Originally designed for the ZX Spectrum by the Oliver Twins themselves, the Atari port was handled by Hassan Mehmet with graphics from Terry Lloyd and sound by David Dunn. Pinball has always been a concept that has translated well into video game form, and the Codies' effort is no exception. You have all the things you would expect from this genre including bumpers, flippers, score multipliers, chutes and even a multi-player mode so you can compete with up to two of your friends for bragging rights.

Although it only features one table, it's so addictive and playable that it will keep you chasing your high score for a long time to come.











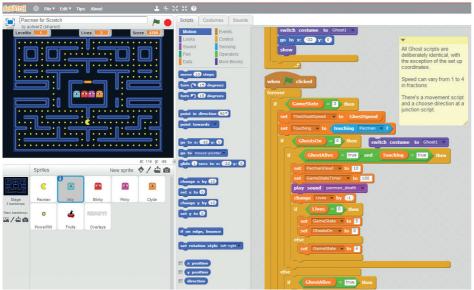
Scratch a story by Andrew Oliver

In the spring of 2012, my son aged 11 came home from school saying they were to learn programming and had been set a challenge to make something in an online program called *Scratch*...

that lets you write simple games live on the website and share them with the community. It has very similar commands to BASIC, but with drag-and-drop commands – no need for typing or accidentally introducing

I could see that developers MIT had been extremely clever in teaching all the basics of programming in a fun and interesting way. So, my son had his bouncing ball demo in Scratch and I was explaining to him that all the fundamentals of programming are in those instructions and actually, you

could create any game within Scratch, well, any old 2D game... like all the classic 8-bit games. He wasn't convinced, he thought Scratch cut out of lot of the cool stuff that games required, but I was saying 'no it's all there – you just need the skill to use it'. Actually it's got far more than what Philip



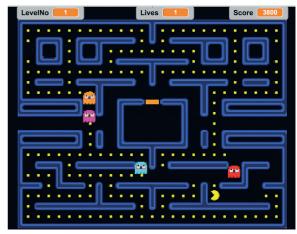
The Scratch assembly panel with dragand-drop commands which can be switched between several tabs at the top. syntax errors. We went through learning it together. It was quick and simple to get things moving around the screen and that was it, his homework was done!

and I had when we wrote our games in the 1980s. He wasn't buying it!

I'd said to him that you could write a full 8-bit arcade game and I pondered, could I? I certainly couldn't see anything too difficult or stopping me. I thought,

[†] https://scratch.mit.edu/





Pac-Man is a classic, I can very quickly pull the graphics from screen grabs on the internet and put them back together in Scratch. Actually, a Google search quickly led me to all graphics, sprites and sounds effects of Pac-Man. If I'd looked a bit further I might have even found the original code – probably 6502 assembler. But I knew how to do ghost logic, I've done similar before...a long time ago.

So, through the night I coded – well, dragged and dropped commands to recreate *Pac-Man* in Scratch. By the time my son got up in the morning, it was about done and I had a full working game! I hadn't intended to work right through the night, I thought it would only take a few hours. But, just like the old days, once you get into coding, time just goes by and you don't notice. I was in the zone again!

It worked really well and proved that you can write a 2D arcade classic in Scratch. Over the next few days, I played around with it, giving ghosts different speeds and making it possible to swap in/out new maps.

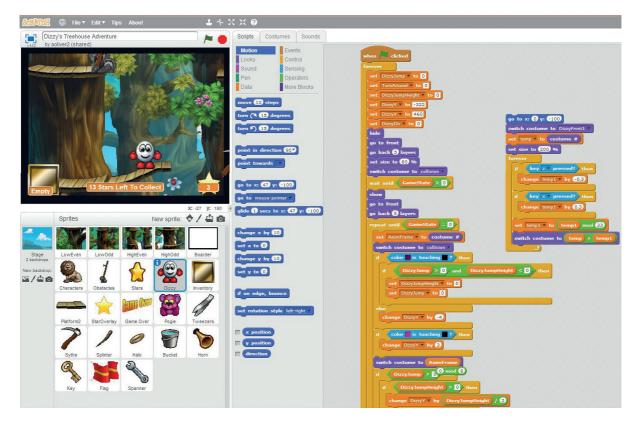
It's there now, has had over 200,000 plays and continues to climb, it's also spawned an enormous number of modified versions – but that's fine, people are being inspired and learning from my work.

You can play the game and open the code, alongside to see how it works — which is brilliant. My only regret is that I made it over complicated and used floating point variables for the ghosts. I wish I had kept it using only integers and simplified it to be closer to how the original works.

Dizzy's Treehouse Adventure

A few months later, Codemasters had released *Dizzy – Prince of the Yolkfolk* on iOS and Android and there was talk of Dizzy maybe making a comeback. I remembered the time I wrote *Pac-Man* on Scratch and wondered... 'was it possible to do Dizzy in Scratch?' I could easily get the graphics for the iOS/Android version of *Prince of the Yolkfolk*. So, I thought it would be a fun to write the game in the evenings, as a hobby.





Find the Princess's beloved Pet and collect all 16 stars in the adventure. You'll find quite a few characters that can help you with your quest... **Enjoy!**

I got all the graphics and set about it. I wanted to make it readable and adaptable so that any Dizzy fans could open the code and see how it was written. Maybe it would inspire some people to make other games inside



Scratch. I wanted to include all the main elements that made a classic Dizzy game, but I didn't want to necessarily just copy *Prince of the Yolkfolk*, which was quite a large game. I wanted to see how far I could push Scratch, to make something never seen before on it. My goal, to make the best ever Scratch game.

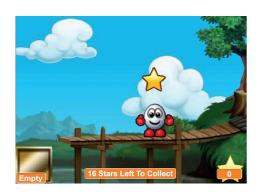
One of the key things I'm quite proud of is that I was able to make a full 8-way scrolling game, with parallax! I had a look to see if anyone else had a scrolling screen game running and found a few poor attempts. I remembered seeing a *Super Mario Bros*. inspired game which showed some promise, but had issues with the scrolling.

I looked into it and realised that there would be a way, albeit very cocky

and obscure, but a way nevertheless, to get a full 8-way scroller working, given all the restrictions of the language.

It reminded me of the old days, when fighting the restrictions was the fun challenge. Doing something that has never been seen before, by using the instructions in a way that had never been intended. It's almost a shame that computers are now so powerful that often those challenges don't really exist in that small simplistic way.

The result is very nice, even though I do say so myself, although, I can see from comments in the posts below the game, that it clearly needs a reasonably fast computer to run this game within the browser — but I did it!





Andrew Oliver's game *Dizzy's Treehouse Adventure* can be played at: http://bit.ly/DizzyS











Paul Ranson

Paul and his company Big Red produced many Dizzy games across a number of platforms including the ZX Spectrum, Amstrad CPC and Sega Game Gear.



The Codemasters team gave Paul a warm welcome when he presented *Wacky Darts*, his first Big Red game to them. It led to his relocating the team to work on an inhouse arrangement.

first met Philip Oliver in one of the many portacabins out the back of the Codemasters farmhouse in early 1990. Boy were those portacabins dismal places! Stinking hot in summer and stinking cold in winter - frankly just stinking of cigarettes, sweat and code. Philip and Andrew hated them and preferred to work from home in nearby Leamington Spa. Philip showed me around the town and in the process explained the Codemasters way of working. It was all about taking as little upfront money as possible to make the games and then to share larger rewards in the form of royalties.

I remember being really impressed that such nice geeky guys had made so much money that they had purchased a bright red Toyota MR2, resplendent with

> a sticker of Dizzy on the back window. I was driving a clapped out Leyland Maestro at the time.

The Olivers frothed about *Dizzy* with a dizzying

passion. I confess to not knowing much about the Egg at that point. Little did I know that I'd be peddling egg-based puns for the next few years.

Within the next couple of weeks they invited me down for a weekend, and Philip and Andrew walked me through some of the games they had made. It turned out that the tech they had evolved was getting pretty mature, but there was much excitement about moving on from computers to Nintendo.

The entire Codemasters collective was obsessed with the notion that they could dominate Nintendo games in the same way they had with 8-bit computers, bypassing what was conventional wisdom of developing for the Amiga and ST. Richard and David Darling had some Canadian heritage and they had seen how massive Nintendo was in North America, whereas we in Europe had become more focused on computers.

Philip however wanted to hedge his bets. While he and Andrew focused the future on consoles, Philip offered me a deal that was to become pivotal in my career: 'Would Big Red complete the

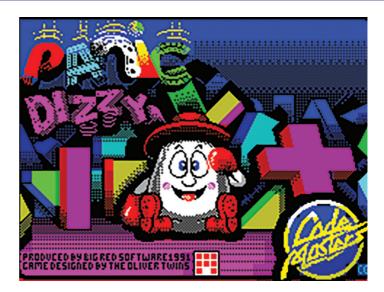


next Dizzy game on computer systems?' *Magicland* was the first manifestation. Egged on by the twins, the lads at Big Red went on to create *Dizzy Goes To Hollywood* which was rejected by Codies for fear of polluting the magical element of the Dizzy universe. The result after much negotiation was to create a new character... Seymour.

I coded *Panic Dizzy* next. Codies feared releasing too many adventure games and decided that we should mix up the Dizzy franchise with some twitch-based games too. I've worked on some loose designs in my time, but the *Panic Dizzy* brief was based on a 'dream' that Philip had – I guess after playing too much *Tetris* one evening. It was fairly simple to code. I banged it out in a couple of weeks but then I must have gone through ten iterations of how Dizzy walked and interacted with the game before the twins were satisfied.

Philip and Andrew had a passion for their craft that was often misunderstood by the corporate team at Codemasters. They defended Dizzy's child-centred positioning with determination whereas the management wanted to make him cool. I recall there being an enormous battle over a tattoo Dizzy had on his arm for *Crystal Kingdom*. Seems so petty nowadays.

Philip and Andrew are two of the nicest people you could meet in the games business. They were always the first to welcome new people and were constantly arranging after-work



drinks. They were forever videoing or photographing parties and ski-trips.

The boys have helped me and my businesses out a number of times over the years. Lending me swathes of coding tech; giving me the steer to a lucrative serious games contract with the British Council and also picking up the pieces of my bankrupted games studio Aqua Pacific. I'm proud to have known them and be involved in some small way in the projects that they have created.

Panic Dizzy loading screen on the Spectrum – adding frantic gameplay to the Dizzy franchise and **below** a colourful in-game screen.







Jon Paul Eldridge

A successful developer in his own right, Jon's link to the Oliver Twins lies in the musical scores he produced for many of their most popular titles.

Nuclear Heist – an original game programmed by Jon for Codemasters (Amstrad CPC).



Born in 1971, I grew up in a world of computer games and electronic music. I was a true Generation Xer with interests in music, the arts and electronics. My parents gave me the space and freedom to explore these interests and encouraged me to make them more than just my hobbies.

I enjoyed playing and writing music from an early age – one of the first instruments I learnt to play was an electronic organ.

In 1978 my parents moved to a larger house in Trowbridge, Wiltshire. I met my new neighbours, the Oliver Twins, at a neighbourhood street party. They lived at the top of the road and were taller, older

SEORE ODO38 LEVEL 2

and a lot wiser than me. I remember being slightly intimidated by them until I discovered they were also interested in programming computer games. We also went to the same school so quickly became friends.

As our friendships developed, we regularly visited each other, socialised and played sport together. As well as gaming we also loved films and comic-book style cartoons. Some of our favourites were *He-Man*, *Bananaman*, *Inspector Gadget* and *Scooby-Doo*.

The twins used to drink a lot of sweet and very milky coffee. It took a few cups for me to get used to it but I soon got a taste for it. Looking back, that sweet milky coffee probably helped them through their marathon programming and gaming sessions. Once they started a programming task or game they would work on it for hours.

I remember some epic gaming evenings at their house – some nights we went into the early hours. One evening we played *Elite* on the BBC Micro until dawn.

In the early 1980s the internet was

little more than a way to exchange e-mails. Computer clubs were social events where software and programming tips could be shared with other computer enthusiasts and were the equivalent of file sharing websites. Instead of downloading files, club members would exchange floppy disks and cassette tapes.

The Oliver Twins and I would regularly visit different computer clubs and auctions where members bought or exchanged computer programs and

hardware. The auctions were also a great way to buy cheap computer parts and commercial software.

Programmers, artists and musicians created programs called demos to advertise their talents — these were mostly created entirely by one person.

Occasionally a demo would be a commercial game that had been hacked

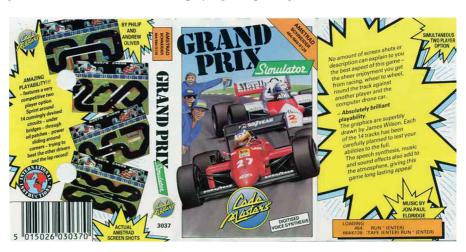
game that had been hacked to display an image or message. It was the equivalent of graffiti and the birth of what we would today call mash-ups.

It was exciting to see what both amateur and professional programmers had created – with home computers having basic hardware and limited memory space it took a lot of skill to create impressive games, demos and professional programs.

One of the most memorable programming tricks was used in the BBC Micro version of *Elite*. The BBC

Micro had a limited range of graphics modes with the higher resolution modes having less colours than lower resolution modes. Somehow *Elite* used a two-colour high-resolution mode for the top three-quarters of the screen and a four-colour low-resolution mode for the bottom quarter. I remember us all trying to work out how it was done and we eventually cracked it after hours of experiments and lots of mugs of sweet milky coffee.

As well as playing computer games,



the Oliver Twins had started designing and writing them, with some of their early games being published in home computer magazines. As home computer and arcade games became more sophisticated, game publishers started using game designers, artists and musicians.

I also did some computer game programming but was more interested in computer animation and music and after experimenting with the simple tones on the Dragon 32 and the ZX Spectrum home computers I moved onto

Jon composed the music for *Grand Prix*Simulator — seen here the cassette inlay for the Amstrad CPC version of the game.



Hi-tech trio hits big time

AMATEUR musician Jon Paul Eldridge is spending his school holidays working with his neighbours to break into the computer games market

games market.

He has already been involved with two number one games, three in the top ten and looks to have another number one on his hands.

Jon Paul, 15, provides the music for the best-selling games made by his neighbours in Windsor Drive, Trowbridge, twins Philip and Andrew Oliver, aged 19. Gallup polls which are used by the industry put Ghost Hunters and Grand Prix Simulator top of the charts. They were both produced in the last six months by the trio.

ass is months by the trio.

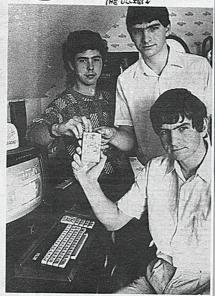
The firm which markets the games, Code
Masters, says that those two and an earlier
game called Robin Hood have already sold
more than 100,000 copies, and it will award a
silver casset to the creators. This is the
computer games equivalent of the pop
music industry's silver disc.

Enterprise

The three met up while at Clarendon School, Trowbridge, where their interest in computers grew in school time and at home. The trio has worked on other games and projects, and the twins, who have now left school, have gone into business with the aid of the Enterprise Allowance Scheme.

Jon Paul, who is studying computer science and other GCSE subjects, has just had his own game marketed by another firm. This is called Freedom Fighter and follows his first effort, Nuclear Heist. Both are selling well.

The twins, who work from home, are about to launch a new game called Dizzy and will soon produce a game based on skiing. Again Jon Paul, who is hoping to complete his own game during the summer holidays, will provide the music.



Computer whizzkids (from left) Jon Paul Eldridge and Andrew and Paul Oliver key in to success.

Jon appearing with the twins in the *Bath* and *West Evening Chronicle*, 31 July 1987. the Amstrad CPC 664. This computer had a three-channel sound chip and a white noise generator that allowed me to mix my interest in programming with my love of music. I created music and sound effect players for the Amstrad and Spectrum and as well as chart music, I ported a collection of songs I had originally written for the organ and keyboard.

I created a demo for the Amstrad that played music and sound effects at the same time. After showing it to Philip and Andrew they asked if they could include it in their next game. This collaboration continued, with them designing and coding games while I provided the music and sound effects. We worked

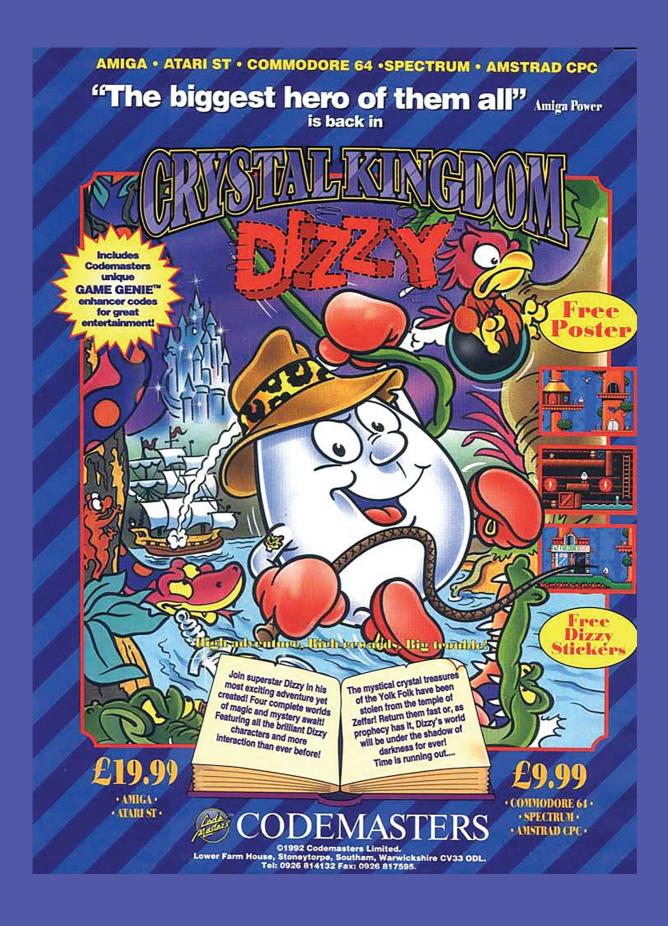
on a number of famous game titles including Dizzy, Jet Bike Simulator, Super Robin Hood, Fruit Machine Simulator, Professional Ski Simulator, Ghost Hunters, Grand Prix Simulator and Advanced Pinball Simulator.

During this time two computer games I designed and wrote were published – they were called *Nuclear Heist* and *Freedom Fighter*. The first was only for the Amstrad but the second was for the Amstrad and Spectrum.

After many happy years of working and socialising together, Philip and Andrew moved to the Midlands. Shortly after I began working on client sites all over the UK as an IT consultant and, as a majority of my clients were based in London and the M4 corridor, I moved to Berkshire.

The years passed and we got on with our lives – Andrew and Philip got married and had children and after living in Berkshire I moved to Wiltshire where I also got married. My marriage ended and I moved to Bristol. Two years ago I moved from North Bristol to the city centre and soon after the move I got a LinkedIn message from Philip Oliver which led to social media contact with both twins, thus restoring our friendship. We now regularly chat on Facebook.

Our friendships were based on a common interest in technology; it was technology that split us apart and technology that has now brought us back together again.





Jenny & Malcolm Oliver

Jenny and Malcolm, the parents of Philip and Andrew, talk proudly of their sons' childhood and their gaming achievements.

Malcom and Jenny with the young twins.

fter they had dutifully sent off their University application forms, our bright and optimistic twins of seventeen years turned to us and said, 'Mum and Dad, we don't want to go to University, we want



to write computer games for a living.' We were a bit taken aback – and that's putting it mildly. Though Philip and Andrew had been showing a great deal of interest in this relatively new leisure pursuit, there was no indication in the early 1980s that it could ever become a career path.

However, let's go further back to see how we could have reached this stage.

Philip was the fourth, and Andrew the fifth child, to be born into our family, having been preceded by two elder brothers, Paul and Martin, and sister, Susan. At the time we were living near Liverpool with me, their dad, working as a Naval Overseer at Cammell Lairds Shipyard. The twins arrived in Clatterbridge Hospital, Birkenhead on 16 October 1967.

At around fifteen months, Philip and Andrew learnt that working together could achieve much more than one on his own, and that communication by some means was necessary. They would jog their cots across their bedroom until they got them close enough to help each other out on to the floor together, with most

of the bedding. When we went to check them later, we would have to force the door open as they were then fast asleep behind the door on top of their toys and covers.

They would make up their own words for things and talk to each other using these words, and we were the ones trying to work out what these words meant. For example, they used the word 'Yong' for anything circular, be it a ball or a bicycle wheel.

They would spend ages playing games between themselves and seemed to know what the rules were, but we couldn't really understand what had them so engaged.

In their Junior school some years later their business acumen skills began to be apparent. They never really took to reading story books, but show them colourful butterfly and moth books and you had their attention. They constructed a cage in the garden, nets were acquired to catch butterflies and a UV lamp sourced to attract moths — quite soon thriving colonies were bred and chrysalises sold at school and then through a lepidopteran magazine. Reading such material and counting their earnings helped their reading, writing and arithmetic no end.

During secondary education at



Visiting 'Backspace' in Leamington Spa.

Clarendon School in Trowbridge their creative and artistic skills were developing. They attended an evening airbrush art course at the local technical college and produced some great paintings. So, with enquiring minds, creative free spirits, a strong understanding of each other's thought processes and a desire to work together, perhaps it was no wonder that Philip and Andrew preferred playing on their computer to watching *Blue Peter*. As time passed designing and learning the computer code needed to write games became an all-consuming passion.

Of course they needed a computer. Without our knowledge, they started a newspaper round which they could finish before mum came home from work and ensure they did their school homework. When we learnt of this, we decided to contribute to their earnings and gave them a Dragon 32 as a joint birthday



and Christmas present. It was quickly clear this computer was not the best for writing games and it was traded in for a BBC B Micro.

Their enthusiasm and hard work was incredible to watch, but we wondered whether this was a ruse to avoid doing

"As parents, we are naturally proud of Philip and Andrew's achievements."

homework and where it was going. We really didn't have any frame of reference by which to gauge their work, but when we had to take them to Birmingham for a live national TV show after they had entered a game competition and won first place, we felt that they really must be creating something of note.

Philip and Andrew entered the sixth form at Clarendon School and, in addition to their A-Levels, they did computer studies at the technical college.

Opening 'The Oliver Building' in 2004.



After saying they no longer wished to go to university, the four of us discussed the matter with their sixth form head, Terry Hall. He suggested it was quite normal to take a year out before university and during that time the twins could see how they fared working full time making computer games, to which we agreed.

So, post A-Levels, with their friends having gone to university, they really set their minds to proving money could be made from making games. They met up with two like—minded boys, the Darling Brothers, and within the year had several number one games, in the then new, computer games charts. Needless to say, we never mentioned the idea of going to university again.

The twins weren't working just with Codemasters – while still living at home they undertook development of a game designed by a local businessman. When he refused to pay the last instalment for his game, Philip and Andrew took him to

court and won without difficulty. But it was a Pyrrhic victory; the gentleman declared bankruptcy and they received nothing; in addition, Philip and Andrew had to pay their own solicitor and court costs. As ever they looked upon this as another valuable lesson learnt.

Through their earnings from Codemasters, the twins jointly bought a large house in Trowbridge before moving to Leamington Spa in order to be closer to their primary paymasters. After retiring, their dad became the company accountant until the paperwork grew to such an extent that handling their accounts, staff salaries, tax and VAT, etc from Trowbridge became impracticable.

Admittedly we, and our generation, are not a natural audience for computer and video games, but we have enjoyed seeing, and briefly playing, a lot of those developed by Philip and Andrew and their teams. They have been brilliantly written and executed, and most have been received well by their publishers and players. And now at Radiant World their current game, *SkySaga*, surpasses anything they have produced in the past and, in our opinion, beats *Minecraft*, hands down!

As parents, we are naturally proud of Philip and Andrew's achievements. Through the quality and ethical content of their games, coupled with their enthusiastic personalities and business integrity, they have received worldwide recognition and acclaim. During their careers, they have won numerous business awards and been given honorary doctorate degrees by Coventry University for services rendered. At Clarendon School The Oliver Building has been named after them in recognition of the inspiration they have been to successive students for the many presentations they've made, computer equipment they have donated and career challenges (with monetary prizes) they have organised for the students.



However, sustaining continuity of contracts in the games industry for over thirty years has not been easy. Acquiring enough work to retain high quality project teams in an era of rapidly changing technology has been a relentless challenge, fraught with difficulties. A strong sense of duty to their employees has always been paramount in the minds of Philip and Andrew and they have done everything possible to safeguard jobs. They have travelled the world to do so and never lost faith in their ability to win through, always looking to the future with optimism. Alongside their business, the twins have married their sweethearts and raised families to which they have also given their time, loyalty, love and encouragement, and in return, have received unstinting support.

They are still as enthusiastic as ever, and we are sure they will continue to create more great games and become a real inspiration to many people in the future.

Proud parents as Philip and Andrew receive an honorary doctorate.





David Darling CBE

David and Richard Darling are the names behind the Southam-based software house, Codemasters.

The Oliver Twins had a long and successful relationship with Codemasters before going on to create Blitz Games.

first met Philip and Andrew
Oliver at a computer trade show
in London. We were just getting
ready to launch Codemasters and had a
stand to recruit programmers. I think it
said PROGRAMMERS WANTED ROYALTIES
PAID, or something like that. We met
lots of good programmers including Ted
Carron who worked with us and went on
to invent the Game Genie with me and
my brother Richard.

At that stage Philip and Andrew were just individuals and were not known as the Oliver Twins. Right from the beginning it was obvious how close they were. They are so enthusiastic and have a habit of interrupting each other and finishing each other's sentences, so it feels like you are almost talking to one entity. I was lucky to know them first as individuals so I can easily tell them apart, but many people who know them first as The Oliver Twins find it hard to tell which one is Philip and which one is Andrew — it's a bit like Ant and Dec. They are actually quite unique and very different.

Philip is slightly more business biased and Andrew is a bit more technical, but they overlap a lot too. Andrew is so endearing as he always just says what he is thinking and does not seem to filter anything between his brain and his mouth. This comes across as very genuine and honest. Philip is a great businessman and negotiator being persistent and quick thinking – they certainly make a great team.

At the show they were very interested in our offer of publishing their games and paying them advances and royalties. They had a lot of confidence in the quality of games that they could produce

Super Robin Hood – the first game that the Olivers introduced to the Darling Brothers; pictured here a screen from the successful Spectrum version.





Will Freeman interviews Philip Oliver and David Darling at 'Backspace' in Leamington Spa. 2013. Photo by Rachel Spivey.

and therefore were enthusiastic about a royalties deal modelled on the music industry.

At Codemasters we wanted 'popular themes' for the games. The first Codemasters game was *BMX Simulator* which my brother Richard wrote. We were therefore keen on their game *Robin Hood* and called it *Super Robin Hood* to spice it up a bit.

Initially we were less keen on their next game they called *Dizzy* which was effectively a game about an egg with boxing gloves. The game did not fit into our 'popular themes' strategy. They were so enthusiastic about the character and the gameplay that they eventually won us over – we thought, let's give it a go as they seem to know what they are doing.

They were right, and *Dizzy* was a great little game. It sold well but didn't set the world alight straight away. When we launched the second one, *Treasure Island Dizzy*, this seemed to fare much better and each subsequent release saw more and more fans buy the games. At

one stage we had three Dizzy games in the top ten charts. We also managed to squeeze in popular themes with the sequels like *Treasure Island*. The games were a great combination of original characters with a familiar theme. Andrew was keen to point out how wonderfully animated Dizzy was as he tumbled and jumped – if he didn't land on his feet he would continue rolling, perhaps down a hill. Dizzy had a unique way of moving which seemed to give him character.

As the twins produced more Dizzy games, the fan base grew. We worked with great illustrators like Nigel Fletcher who did the first *Dizzy* cover and *Treasure Island* and Alastair Graham, an ex-Disney artist, who did great covers for *Fantasy World Dizzy* and others. The series became more successful with each sequel.

Dizzy games were not the only games that the Olivers Twins did for Codemasters. They were prolific authors, and very fast. They did many games using our popular themes strategy –





Crystal Kingdom Dizzy on the Commodore Amiga.

Grand Prix Simulator, Pro Ski Simulator, Championship Jet Ski Simulator. They were experts at producing small games that were very fun to play.

Philip and Andrew often researched their games – for Jet Ski they invited us to use their friend's Jet Ski on a lake. After doing *Pro Ski Simulator* we also went on skiing holidays with them to the French Alps. Andrew was quite crazy often going off piste and tumbling down slopes head over heels like James Bond. I was encouraged to do a big jump which resulted in me flying through the air

Camerica stand at CES in 1991.



completely out of control and landing on my back in a crumpled heap – all captured on film of course as they used to film everything!

In the early days the Olivers had been developing games on home computers like the Amstrad and Spectrum. In the late 1980s and early 1990s they made Crystal Kingdom Dizzy on the Amiga and console Dizzy games like Fantastic Adventures of Dizzy on the NES and Megadrive. These were no longer small games but massive projects with amazing graphics, animation and audio high-production values. The Olivers were developing and growing their skills as the industry grew in size.

They did many great games for Codemasters. Unfortunately, after many years of working happily and successfully with the guys, Camerica – the North American publisher Codemasters was using – overstretched itself and went into bankruptcy; this had a financial knock on effect on Codemasters and unfortunately on the twins too. This was really the end of the fantastic working relationship between Codemasters and the Olivers but I'm pleased to have followed their successful careers and stayed friends with them personally to this day.

There are lots of brothers in the games industry, but the Oliver Twins have stood out for their creativity, originality, dedication, passion, endless hard work and enthusiasm for games development since the early 1980s.



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Ivan Link

Being lifelong friends of Philip and Andrew, Ivan witnessed the very start of the twins' gaming career and joined them at Codemasters, with their help, initially working on reverse engineering common consoles.

was at school in Trowbridge, Wiltshire when I first became friends with the Oliver Twins; we were nine at the time. They were entrepreneurial from the start: I remember paper rounds and running sales and other fundraisers for the next big scheme. We got on well, whether off on our bikes, playing in the nearby countryside or building projects such as go-carts in the garden.

science at the local college and was an

My father lectured in maths and early adopter of a home computer. The

4070

Apple IIe, with 48k RAM, a floppy disk and output via a TV modulator was cutting edge at the end of the 1970s. As well as the supplied commercial software there were a few games that impressed us. Probably top of our list was TaxMan, a Pac-Man clone that we often played into the night.

Fascinated by games on the Apple, Philip and Andrew set out to get a computer both to write and play games on. They soon progressed from the Dragon 32 to a BBC Micro, fitted into a custom desk they designed and built themselves, which also housed the tape recorder for program storage and a Tandy plotter-printer for code listings that literally wrote out characters with miniature ball-point pens.

The BBC Micro was really the start of their game development career, the first real game was written in BBC BASIC and because of the speed limitations of the language, they avoided anything arcade-like and instead went on to produce a board game, initially developed as Strategy. It came as a surprise to their friends that they entered it into a

A pill-eating Taxman on the Apple IIe.



TV competition (they kept that quiet) and that they won first prize which we discovered when we watched the show on Saturday morning – we've made fun of their quality jumpers ever since!

As we finished O-Levels and prepared for the sixth form, Philip and Andrew kept up progress, developing new games and learning how to make them run faster. It was fascinating to see them work together, taking turns at designing the game, the graphics, the initial coding, data entry and debugging. Only the last two processes happened on the computer, the others were done by hand on paper and card. Because they only had the one computer it meant each game had to be designed and documented from scratch, which I'm sure served them well later on.

As we passed our seventeenth birthdays driving licenses beckoned – through their earnings developing games Philip and Andrew were able to buy a second-hand Datsun Cherry in which they both learned to drive and then passed their tests. I seem to remember it going surprisingly quickly, given sufficient run-up but then again any car

where the numbers on the speedometer counted past 100 mph was quick in those days! The Datsun enabled them to get to computer shows, visit publishers to market their games and allow groups of us to get out for bowling, paintballing, the cinema or just go for a run during an evening. I remember visiting a publisher

The Datsun Cherry bought from game earnings and owned by Philip and Andrew.

"It was fascinating to see them work together, taking turns at designing the game, the graphics, the initial coding..."

with them and being impressed that all the tape production and duplication was done in house.

Being early days for the industry, sometimes the production and checking wasn't as thorough as it could be. I think it was Andrew who spotted a Freudian slip in some duplicated game instructions. They were supposed to say 'Place disk in drive,' however a letter other than 's' was used in 'disk'... ahem.

Since the market for BBC games wasn't as large perhaps as originally hoped, Philip and Andrew investigated other home computers. Amstrad's



CPC 464 was doing well, but had the disadvantage of still being tape-based so they were excited when the CPC 664 was announced, with disk drive, 64k ram, colour monitor and a decent keyboard. It also sold for considerably less than the BBC Micro with similar peripherals.

Philip managed to secure three early release CPC 664s through a publisher and asked me if I wanted one too at a discount from retail price. As I was heading off to university soon, a computer with a word processor would come in handy. It turned out we had to collect the machines from central London. The twins' dad offered to drive us and we were off in such a rush that approaching London Philip said, 'Heck, I'm still wearing my slippers!' - he'd forgotten to change before getting in the car. So we duly walked into the office, where Philip apologised about his footwear, we collected the computers and somehow fitted everything into the car before heading home.

After finishing A-Levels and our sixth-form studies, the twins were determined to give game development as a career a real go, while the rest of our group went off to further studies – I went to Hatfield to study electronic engineering and computing. When the twins began their relationship with Codemasters things progressed quickly. Publishing large numbers of games, frequently with multiple bestsellers in the charts at the same time, they quickly became well known industry figures. The Datsun was traded in for something a little quicker and they were able to move out of their parents' house into their own home. Naturally the biggest bedroom became the development studio so, for the first time in many years, neither of them had to share a room with piles of computer hardware.

Through 1987–88, I visited Philip and Andrew quite often during the holidays – by this time they were using early PCs as development platforms with cross assembler-compilers to build programs for the target systems. I was impressed by the compile and download

minutes to load a Spectrum program from tape the PC system downloaded a trial build of an entire game in a couple of seconds. This enabled them to develop code much more quickly with everything stored on the PC's hard disk. In 1989,

Sega's Master System

– reverse engineered
by Ivan.

Evan-Amos

SEGA MASTER SYSTEM/POR

with business booming, they relocated to Leamington Spa to be closer to Codemasters.

I graduated into the early 1990s recession and work was hard to find, which is when Philip and Andrew introduced me to David and Richard at Codemasters. I soon had a contract to reverse engineer the Sega Master System/GameGear consoles and to prototype a development system. I started working from Wiltshire but soon moved up to Leamington Spa to work at Codemasters full time. I was based in 'the Loft' at the Southam site, developing the electronics hardware for console cartridge production (lock chip – pah!), but that really is another story.

By this time Philip and Andrew had an office in town as a new base for their company Interactive Studios shared with Peter Williamson (SuperSonic Software). Here they continued to build a team dedicated to producing games. Philip had moved to his own flat in Leamington so Andrew kindly said I could use the spare room in his flat in the meantime.

These were good times, a great social scene, game development in full swing, everybody busy and full of optimism.

The twins were developing games for the NES console targeting the US market as well as the continuing development on the traditional UK computer systems. Soon afterwards they also began creating games for the Sega Megadrive/Genesis and Sega Master System/GameGear. The in-house teams started to struggle with

the workload, so they also worked with other development studios to port the titles onto other platforms.

Codemasters were effectively going it alone into the world of consoles, developing games not officially licensed by the console manufacturers. They produced their own development systems allowing games to be developed on PC



and also programmable EPROM cartridges that allowed prototype game software to be blown into cartridges for final testing. They also set up a factory to produce the game cartridges themselves (CM Electronics). Perhaps understandably the big console manufacturers weren't best pleased so there were a number of legal cases that delayed Codemasters and hence the Olivers being able to get console games into the market.

When the legal dust had settled there were several good years for the twins and Codemasters with a lot of games manufactured and shipped.

The Game Gear was another of Sega's consoles that Ivan tackled.





Ash Hogg

Ash has worked with and for Philip and Andrew for a considerable part of his gaming career – he helped finish *Fantastic Dizzy* for the Sega Megadrive.

o how do you go about describing Philip and Andrew Oliver? Well, if they're your current employers, not unfavourably! I have spent thirteen years working for the Oliver Twins. I still do. It's entirely accurate to say I've not met anyone else quite like them. The short version is they're incredibly energetic, enthusiastic, friendly, and chatty. If you're a shy and retiring type you might do well to steer clear of them!

I'll let you into a secret though. I was never a Dizzy fan. Don't tell those two of course, or I'll never hear the end of it! Although my Spectrum and C64 gaming leant toward more arcade-style platforming and shooting, of course I knew of the Oliver Twins. They seemed to be featured everywhere in the gaming press when Dizzy went supersonic and dominated the charts.

As part of Genesis Software, in 1990 I found myself signing with Codemasters to publish the first *CJ* game (developed by the wonderful Dave Clarke and Jon Smyth on the C64, with me doing the 16-bit conversions). Visiting the Codies stand at the European Computer Trade

Show, I had hoped to meet the twins, these developer superstars. Sadly, I missed them, but did see a lovely poster on the stand with them draped over a gleaming red Toyota MR2, presumably bought with bags of Dizzy royalties. They sure looked glamorous in those cardigans!

Late in 1992 I had my first proper encounter with Dizzy when the Darlings asked me to program a small prototype of an educational Dizzy game for the Amiga, for which they had already produced some graphics. However, this was soon cancelled and then I then agreed to come to the studio in Warwickshire and help finish programming work on the Mega Drive conversion of Fantastic Dizzy. This project was well underway, with Del Leigh-Gilchrist having already done much of the code. I programmed the sub-games while Del focused on finishing the main game code.

This was the first time I met Philip and Andrew and it was immediately obvious they could talk at some length about anything and everything. It was clear though that they were also genuine



'A reject from The Proclaimers' – Ash outside the Dizzy Enterprises offices in Leamington-Spa.

and up-front, and they certainly helped to make me feel welcome.

Although I worked in Codemasters' offices, the twins' own Dizzy Enterprises was in the centre of Leamington Spa, so I visited them frequently with latest work-in-progress copies of the Mega Drive game, and over the months spent a fair bit of time getting to know them and their staff. I always felt those offices had a nice fun feel to them, being much smaller than the ever-expanding Codemasters empire in the nearby countryside.

There's a great photo of the Dizzy team taken in the little courtyard alley beside that office (see page 135 for the whole photograph). Not only did I look like a reject from the Proclaimers, but we all had hair back then! It's a small comfort to me today that although Philip, Andrew and myself are thinner on top than we used to be, I think I still have more than they do. But I'm probably just kidding myself.

After wrapping up the Mega Drive conversion of *Fantastic Dizzy*, I continued working with the twins and the Dizzy franchise by starting to port the game onto the Super Nintendo console. Codemasters didn't have the facility at that point to make SNES cartridges, so provisionally agreed a publishing deal with Ocean. If memory serves, we got a few months into the project before interest waned a little and the deal fell through. It's a shame,



The Genesis cartridge of *Fantastic Dizzy*.

because it was shaping up very nicely, with a lot of the gameplay and levels in place. I don't believe this version has ever been seen anywhere and sadly I have none of the original code or assets intact any more. Sometime I must ask Philip and Andrew if they have any old ROM images stashed away anywhere on a floppy, but in all honesty I can't recall ever giving them any.

Around that time I also did the audio driver, music and effects for their Excellent Dizzy Collection Mega Drive

Philip and Andrew's 'gleaming red' status symbol Toyota MR2. They still owned it in the early 2000s.







A colourful screen of the Mega Drive version of *Fantastic Dizzy* and the distinctive cover artwork.



compilation. They may have a slightly different take on it, but I remember it being a real rush job, getting a call early in the week asking if I could do it, and do it quickly, as they were meant to master the title at the end of the week! I said I would do it but for a fairly hefty fee, which caused some grumbling but they did cave in as they absolutely needed it done. Many years later, a friend of mine interviewed with them at Blitz Games, and told me that talk of this occasion had arisen at the interview. One of the twins (I don't know who but one day I'll find out...) allegedly referred to me as a 'money-grabbing b*****'. But we can laugh about it now, after all these years!

At this point, I moved on to other non-Dizzy projects and finished working with Codemasters about eighteen months later, in late 1995, and it wasn't until some time in the very late 1990s that I happened to bump into Philip at a local business breakfast networking event. It was genuinely great to see him after all that time, we caught up on what we had been doing in the intervening years, and

he told me how much they had grown Blitz Games, and that I should come and work for them. 'Never!' I exclaimed. One of us was wrong, and it wasn't Philip.

It was a good couple of years after that breakfast meeting that I found myself between jobs, and as I was hunting around I thought to drop Philip a line. He invited me to visit the Blitz Games offices, and indeed they had grown, but they were still the same friendly guys. I ended up joining Blitz in 2002, where I worked for over eleven years. It amused me greatly that even in the early 2000s, they still had that red Toyota MR2 from the poster I saw at European Computer Trade Show. With a great big Dizzy sticker in the rear window. Brilliant. Sadly Andrew swapped it for a Mitsubishi GTO which ate gearboxes and sometimes had to be pushed backwards. He loves his cars but he drives like a madman. Don't tell him I said that.

Even after leaving for a stint at another studio, I then returned to join them at what is now Radiant Worlds. Hand on heart I can genuinely say I believe they are great bosses, and try their best for their staff. That's not as common as it should be. And the enthusiasm is still there in spades. I have no idea where they get the energy from.

In closing, I'll simply say that it's been a pleasure being a small part of the Oliver Twins and Dizzy history. They are truly industry legends. And if you ever see them at a gaming event, or anywhere else for that matter, just go and say hello.

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Jarrod Bentley

While at Hi-Tec, Jarrod worked on the 8-bit conversions of several games, one of them being Crystal Kingdom Dizzy.

re'd not long moved into a unit at a local enterprise centre when I found out our next game was to be for Codemasters, a Dizzy game no less called *Crystal Kingdom Dizzy*. We were to do the 8-bit ports.

We had four to six weeks to get it out of the door. Thankfully Dave Thompson and Craig Kelsall (the programmers) had a library of disks full of routines from the Atari ST version of the game; I had the stock 8-bit sprites for the main Dizzy characters and the ST score panel which gave us a good starting point.

I'd had a brief play of previous Dizzy titles and I'd noted that the C64 and CPC were ports using the Spectrum graphics. Hello, I thought, this'll be a doddle – Dave had other plans. Each



Finding Daisy's House in *Crystal Kingdom Dizzy* on Jarrod's favourite platform, the ZX Spectrum. port was to take advantage of each machine's capabilities. Okay, so it was the same plan as before: design the backgrounds, game panel and loading screen for the C64 first; recolour them for the CPC; reverse engineer them somehow for the Spectrum.

I had the stock hires sprites for the main characters (Dozy, Dora etc.), all I needed to do

was design enemies, collectables, story characters and loading screens. The game was split into four distinct levels and early on it was decided to be a single load unlike the 16-bit versions, so using the ST and Amiga maps and art as a reference point would be out too.

Then it dawned on me – I'd have to draw multicolour sprites for the C64 and CPC. How am I going to pull off an egg in three colours, in double pixels on the C64? At least on the CPC I could use any of the colours in the palette to try to round the egg off. 'Ah don't worry,' says Dave, 'we'll put hi-res overlays on the story characters on the C64.'

Now you have to remember, cut me and I'm rainbow striped through and through. Yes I'd had a C64 but I'd never delved into the graphic capabilities, I thought I'd seen layered hi-res sprites in *Quedex* and *Hunters Moon* but I thought I was just seeing things. Later I find out (when struggling to draw a straw roof



es and Crystal Kingdom Dizzy
he same on Commodore 64.

on the C64) you can mix hi-res and multicolour backgrounds on the same screen. Witchcraft!

So off I went to start the C64 graphics. It then dawned on me if we're going to try to do the best version for each machine's graphics capabilities how can I reduce colour clash on the Spectrum? I was a big fan of titles on the ZX Spectrum where the sprites would pass behind the background to minimize clash, such as *Jack the Nipper II*, *Dynamite Dan II*, *Exolon* and *Dan Dare*.

I tried to persuade Dave to incorporate this effect into Dizzy and was met with a resounding no! Dammit. However it wasn't because he wouldn't do it but it was down to the time scale – there just wasn't enough time to write a masking routine to pull that off. So would he let me have it in daylight? Like we were doing on the C64? That was a no too as it would need too many tiles to be repeated (the only difference would be





The Amstrad version of *Crystal Kingdom Dizzy* and below the game's box.



blue or black paper) and we were trying to get it in a single load. Which meant the same for the CPC, as the map data was the same as the Spectrum.

I must say that the Spectrum version presented quite a challenge to get that game into 48 k. Dave is an incredible coder and wrote a natty little routine so Dizzy walked in a curve on a slope rather than just going at a 45° angle.

There wasn't even enough room to mask the main story sprites so Dave wrote a routine to mask Dizzy on the fly, mirroring the sprite data so that it only needed animated sprites facing in one direction. I had to redraw the story sprites with backgrounds around them for any interior scenes, something I couldn't do for the collectables otherwise you'd see bits of backgrounds in the inventory.

I reverse engineered the C64 graphics by removing one of the background

colours and replacing it with a stipple to give a shading effect. It had worked well in monochrome but not so much as I added colour to the graphics.

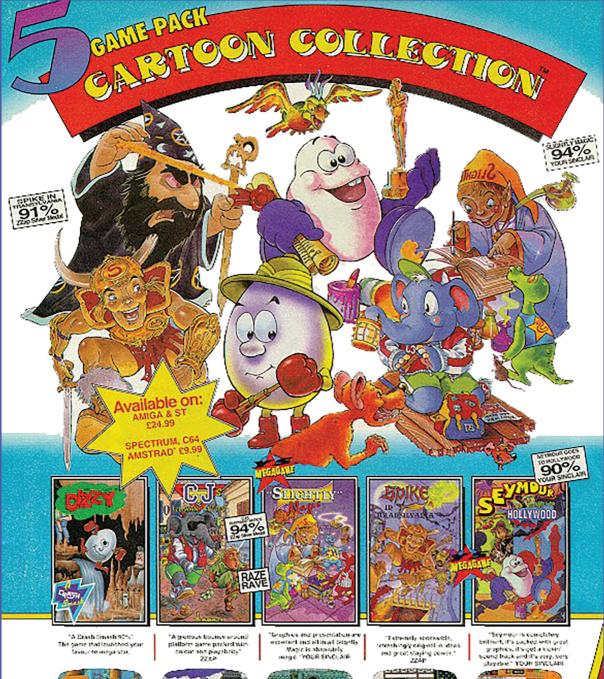
Craig was an absolute rock and never appeared to get flustered. He bulldozed his way through the C64 version. I can honestly say I don't remember him hitting any real snags along the way, except for one time some Z80 assembly somehow ended up in his 6502. Now that did have him scratching his head for

a few minutes.

So the C64 version was almost done, as was the Spectrum. It was time to recolour the tiles, game panel and loading screen then port the Spectrum code over to the CPC and draw the sprites that had been filling me with dread. In the end they came out a lot better than I expected – the ability to use any of the 16 colours that we'd chosen for the palette really helped to soften those double pixel edges.

Before you knew it the deadline had arrived and the game had to go off for duplication.

What did I learn from this? The C64 has some really neat tricks under the hood and when used correctly can be spectacular; the CPC is a terrific games machine when programmed properly and reverse engineering C64 graphics on to the Spectrum look okay in monochrome but don't work so well when you introduce colour.















AMIQA screen shots shown.

Codemissters Software Company Limited 1991, PO Box 6, Learnington Spa, England, CV33 OSH

SPECTROW, AMSTRAD, CCC CXZY TRIENS, ESUND DIZZY FANTASY WORLD DIZZY UTTLE PUTE ROCKSTAR MAGNIANO DIZZY SI DUTTY MAGNI SENVERR RIVOLVINOCO SPIE PUTEMOSYLWIAK

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[GREAT ERSTAN ORLY]



Chris Palmer

Philip and Andrew found themselves on *The* Saturday Show with Chris Palmer after winning a programming competition. Mention has to go to the twins' jumpers!

ack in early 1983 I'd been approached by the production team of Central TVs The Saturday Show to present an item on computer games and the young programmers in the UK who were at the forefront of their development. As part of this, Glyn Edwards, the show's producer suggested setting a competition. We decided that it would be to design a video game. As at the time I was working for one of the UK's leading home computer magazines, I had access to all the current home computers, so we decided that we'd accept designs both on paper and also tape for those children who were lucky enough to have a computer.

We announced the competition on the show and it was agreed that I'd come back in three weeks having found a winner and we'd do another segment on the show to present the winning entry.

A few days later I was sitting in my office in London when I got a call from the mail room saying that some post had



'That's not all Folks' - the start of The Saturday Show on ITV in the early 1980s.

turned up for me and could I come down to collect it. What I found staggered me, there was a huge, grey Post Office sack full of letters and padded envelopes.

This was the first of three which subsequently arrived! The next two and a half weeks turned into a string of late night marathon sessions; reading designs, loading tapes and playing the games. It's fair to say that the vast majority of the games didn't get much more than a few minutes of my attention as they were simply rehashed versions of existing games. However, a few days into this I came across a game for the BBC Micro that really caught my attention. Whoever had written it had obviously put a lot of thought into the gameplay and I ended up playing it for a while. We had a winner!

I let the show's production team have the details and they organised for the twins to come up to Birmingham for the show and receive their prize.

When the morning of the show arrived I got word from one of the production assistants that the twins had arrived. I made my way down to greet two incredibly nervous boys and their mum and dad. Now bear in mind, this was only my second time on a live TV show, but I tried my best to exude a sense of calm and control to put them at their ease and talk them through how the segment had been planned out. Showtime arrived and the segment went off well, nothing crashed and the twins gave a great account for how they



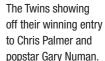
approached designing and writing the game, even impressing Gary Numan, who was the guest star.

The original prize for the show was going to be a home computer, but as the twins already had one I had a word with my contacts at Commodore and organised for them to be sent a hi-res colour monitor, which I believe they still have to this day.

So that was that, all save for one final bizarre experience.

As I mentioned, Gary Numan was the guest star on the show and as we went out live, fans knew that if they saw someone on the show, they would physically be at the studios. So, as we left the building, we all had to run the gauntlet of a few hundred Numanoids outside the studio doors, all with the pale skins, bleached hair and dressed head to toe in black.

It was like a modern day Midwich Cuckoos convention!







Godfrey McCann

Godfrey had the pleasure of teaching Philip and Andrew O-Level computer studies at Trowbridge College.

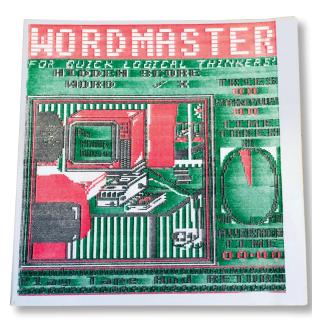
think it was in the summer of 1982 that Jenny Oliver approached me for some advice as to what sort of computer to buy her twin boys – and this was the first I heard of Philip and Andrew.

At that time the BBC Micro was just being launched, with a spec that outdid every other home computer, and my advice was to wait till the autumn and get one. However, a couple of weeks later, I heard that they were now the possessors of a Dragon 32. It must have

got a lot of use, because it was eventually passed on to one of their contemporaries who, many years later, was to become my stepson; and in his mother's words, it was 'clapped out'!

The next year (I think), the twins themselves showed up as part of a 'link class', a group sent by Clarendon School to the College in order to take a course which the school itself didn't offer – in this case, O-Level computer studies. Physically, they were completely indistinguishable: even at the end of

Details of Philip's O-Level computer studies project – for quick logical thinkers.



Why Wordmaster?

I considered a number of ideas for my project such as payrolls, directories, subject tests etc., but in the end I decided to write an educational game. I chose Wordmaster because I would be able to write it in a limited number of lines yet still produce an interesting, and compelling game. There is plenty of data provided, using a file system, and the introductory screen picture is loaded directly into the computer. This program has infact been published in an Argus Specialist Publication computer magazine on cassette called MODEL B COMPUTING (1st Issue) for whom I have since written many other successful programs and reviews. Good Luck in Mastering Wordmaster? Philip Oliver.

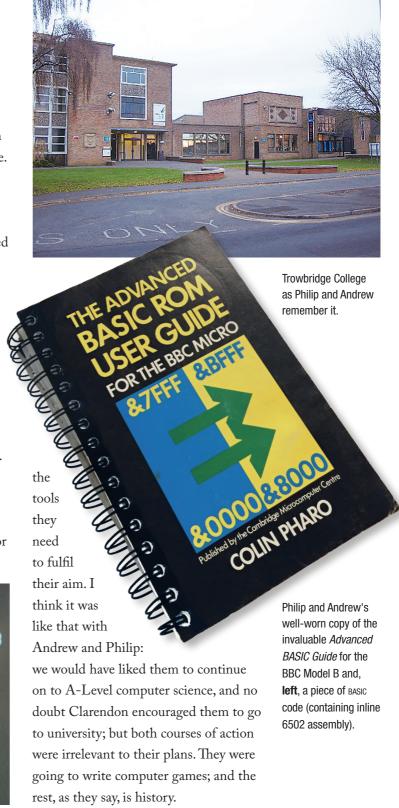
two years, I couldn't tell them apart. But you could see a small difference in their coursework – Philip would always have the edge of a couple of marks on Andrew! It soon became evident which way their interests were developing when they appeared on TV, having won a competition to write a computer game.

It was a pleasure to teach that class: besides the lads, there were four to five other really talented students there.

Andrew and Philip rapidly developed into expert programmers. The BASIC on the BBC had just about every facility you could want (bar pass by reference), and they used the lot. I can recall them pushing the envelope by asking me to develop a small piece of assembler and embed it in a BASIC program. I don't recall what it did, but they never had to ask me again – having seen how it was done once, they mastered it on the spot.

Once in a while you get a student who knows exactly what they want to do in life, and are on the course not for the piece of paper, nor for knowledge for knowledge's sake, but simply to acquire









Peter Williamson

While he was at Codemasters, Peter worked on many conversions of popular titles and remains close friends with the Oliver Twins.

Treceived a ZX Spectrum for Christmas one year in the 1980s – I had heard stories in the national press about kids writing games and making a fortune and I thought I wanted a bit of that. I read all the games magazines back then, so I knew what games were doing well. Budget games were a big thing and with David and Richard Darling setting up Codemasters, they were an obvious place to go to try to get your games published.

The Oliver Twins had had great success with them and during a visit to the company, I bumped into them. I didn't really get to know them though until I moved down to work with Codemasters full time. They were around much more then and we had a very obvious shared interest, so becoming friends was a natural progression. My initial impression was that they were full of energy and enthusiasm but a bit quirky! I actually found them tiring to be around when they were both firing on all cylinders.

Codies were getting into cartridges (NES, Mega Drive) at the time which

was a big step up from budget Spectrum games and the ambition and production values took a huge leap. The Dizzy games had been phenomenally successful in the budget market and there was an ambition to take it up a level.

There was a lot of enthusiasm, competence and mutual respect, tied to quite a clear division of responsibility. I can't remember exactly how it came about, but it seemed a natural fit for Philip and Andrew to design and code the main adventure part of the game and for me to add in the arcade mini-games. I think it worked really well. I certainly can't remember any problems.

Although we'd all had great success with Codemasters, there was a feeling of wanting to stretch our wings. The games industry was really booming and I guess we all wanted to see how we could do with other publishers. The business was also getting much more professional – the days of a lone coder in his bedroom were numbered. We had to expand and employ, or give up – and that was never an option. The twins and I initially spoke about forming a company together but

in the end it was easier just to work together in the same office. I moved on to *Micro Machines 2* (still with Codies), they were more focused (and more ambitious) to work with than other publishers.

Codies back then was a very close knit community with lots of people from all over the place ending up in Leamington Spa working together. We all tended to work and socialise together. I think I'd been living in Leamington for a good couple of years before I socialised with anyone outside the Codemasters 'family' as we were a bunch of likeminded people who enjoyed being together. Philip and Andrew bought a flat, my lease expired, so I moved into their spare room while I looked for somewhere to buy. As it happened, the flat below them came up for sale and I bought it - so we all lived in the same building for a while.

Codies in those early days was a great time. Lots of young people, lots of freedom, lots of shared interests and ambitions, lots of money sloshing around. A real sense of possibilities and opportunity.

I went on quite a few skiing holidays with the twins. Andrew was obsessed with videoing us attempting jumps and stunts – there is actually a video of David Darling going over a jump at way too high a speed, realising he was out of control, slowly wailing and then ending



in a heap. I think You've Been Framed refused it on the grounds it looked too dangerous and nasty. Another time Andrew beckoned me on to a jump he'd found. I hurtled over, not knowing that it was all a bit bare and worn on the other side and I ended in a heap and thought I'd dislocated my shoulder. All good video footage apparently though.

There was also the summer holiday to Magaluf – where maybe ten or twelve of us went. Andrew and I shared a room while Philip and his future wife Ali were in another. Towards the end of the holiday we realised we hadn't seen either of them for two to three days (no mobile phones back then). It turned out that Philip had been in hospital with food poisoning for two days... as the alcohol had been flowing, we'd been blissfully unaware.

The Fantastic
Adventures of Dizzy
on the Sega Master
System — Peter was
responsible for writing
the original NES
mini-games.







collection contained the original Dizzy game. Although it was quite simple looking it was colourful and the cheerful character you controlled appealed to me. It was also tricky so I managed to work through only a few screens before once again swapping to another game. A few months later I was in Woolworths with my Grandma and Dad where I spotted Kwik Snax. The Codemasters logo and the character on the front of the cassette looked like the one that had been part of the

collection I already owned. I begged my Dad to buy it and my Grandma said, 'Oh you'll never play it.' Well I did play it, a lot, and it's still one of my favourite games. As soon as it loaded The Dizzy Mob played the main theme – amazing! This was when I became a Dizzy fan.

Left: Andrew as a seven-year-old proudly shows off his Dizzy Collection.



A few months later my Dad gave me *Professional Ski Simulator* and as I waited for it to load I noticed that it said 'By the Oliver Twins' on the screen. As it was



a Codemasters' game my eightyear-old self assumed that all their
games were by the Oliver Twins.
I searched through the cassettes I
had and found that just the Dizzy
games I had acquired were by
them. Both my Dad and I loved
Fruit Machine Simulator and it was
only recently that I discovered the
Oliver Twins were instrumental in

"The Oliver Twins always said they wanted to create a fantasy world and make it a believable cartoon adventure.

I believe they did just that."

bringing that title out following the tragic accident of their friend [James Wilson, see page 80].

I remember playing *Ghostbusters* 2, and there they were again. The Oliver Twins seemed to pop up in many games in my collection. Their ideas, the implementation of the games was amazing, and

The Website

their skill in coding – albeit not on the Spectrum – made the very playable and engaging games which I am still enjoying today.

The Dizzy Website

Yolkfolk.com started as The Dizzy Website in its first incarnation,



created by Peter Teal way back in 1998. It included what most fan sites of the time had: pictures; a library of available downloads of the time; some fan games; a forum and links to other Dizzy sites. Browsing the Internet I found it, and it was great to see so many

fans who loved the series

as much as I did. It listed a few games made by fans mostly using the Europress gamecreation tools called *Klik&Play* (released in 1994, later developed into *The Games Factory* and

more recently *ClickTeam Fusion*). The straightforward package allowed people with no coding experience to create their own programs, and I thought there was an opening for a dedicated website to host these fan programs.

Abuzz with a lot of ideas, I

started the Dizzy Remix Zone as a base of resources for aspiring games makers to keep the Dizzy franchise alive. Around that time, Peter Teal -with help from Portuguese fan Tommy Pereira, who designed a brand new logo -evolved The Dizzy Website into Yolkfolk.com, and the domain was registered in 2000. Sometime that year I contacted Peter about the opportunity to merge the sites together to allow more content for the fans. We joined and I was on the now twoman team bring the fledgling community of Dizzy fans the latest news.



In 2001 Yolkfolk.com expanded, with another new logo, a cleaner design, and through its forum The Dizzy Community grew. Due to various commitments, Peter left the community and the site. After all we are all doing this in our spare time. I agreed to hold the fort until he had the time to return. In 2005 I rebranded Yolkfolk.com as The Dizzy Fansite. In fact for a few years I'd shamelessly called it 'The Official Dizzy Fansite'.

The Dizzy Fansite now has a very strong dedicated team behind it. I'm owner, designer and managing editor. Peter came back a few years ago to help with



programming the website. Adam Markey has become extremely helpful in uploading news and files to the site when I cannot and has become the site's newsletter editor. As the site has evolved there have been different ways of logging visitor information so to count

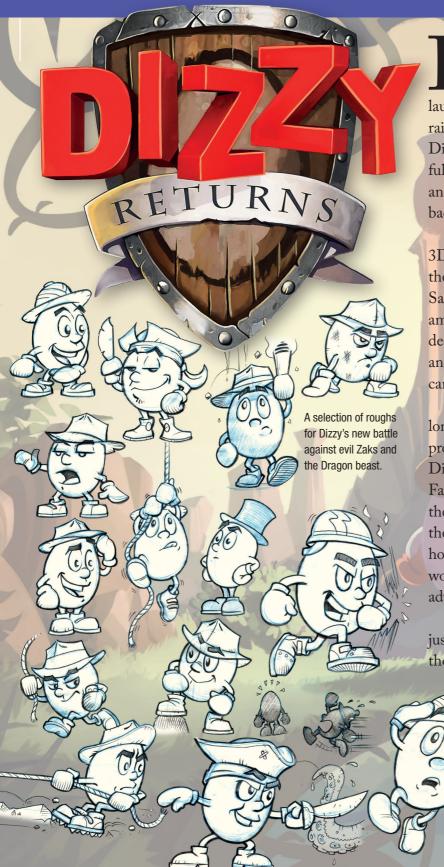
the number of visitors to the website since 1998 would be a difficult task. However, since 2010 we have had over 4,853,000 visits.

Over the past
eighteen years the site
has continued to be
exciting and innovative,
and with the support
of the Oliver Twins
it has grown into a
central hub for all things
Dizzy but especially in 2012
with news of a brand
new game that – sadly

- never was...

Platform-style action at the beach; 3D concept art for what might have been the first in a new generation of Dizzy games.





n 2012, encouraged by fans' enthusiasm for Dizzy and his world, the Oliver Twins launched a Kickstarter campaign to raise the funds required for a new Dizzy game, one that would take full advantage of digital techniques and graphics yet to be developed back in the 1980s and early 1990s.

Because producing high quality 3D games is an expensive business, the budget needed to be big. Sadly, the target proved to be too ambitious. Philip and Andrew decided it was not going to succeed and so a couple of weeks into the campaign drew it to a close.

But undeterred, they adopted a long-view strategy and worked to promote a wider appreciation of Dizzy through the social media of Facebook and Twitter. Meanwhile, these few pages offer a glimpse into the new 3D world that the twins hoped recent techical developments would bring Dizzy back in a new adventure.

The Olivers' aim was not to just reboot an old Dizzy game though. They wanted to stay true

of the spirit and core ideals
of the original series,
while utilising the
platforms, technology
and resources that
were not at at their
disposal in the old days.
They firmly believed that

izzy awakens to a world covered in dust and overgrown plants. He's clearly been asleep for a long time. Zaks must have cast a sleeping spell on the whole world! But then... if Zaks cast the spell, why hasn't he used the time to do away with the Yolkfok while they slept?

Dizzy sets out to find everyone. He explores the world, now overrun by plants, and wakes the Yolkfolk. The final person that Dizzy wakes is the friendly Wizard Theodore. He gives Dizzy advice to control the time of day.

Dizzy journeys across the world, heading for Zaks' castle. This involves travelling the inter-dimensional pathways of Theodore's Library, pretending to be a pirate, exploring Goldheart's Tomb and lots more. Eventually Dizzy finds his way into Zaks' castle, but Zaks is asleep, and more importantly, there's a giant Dragon in the castle! While waking the

people Dizzy also wakes Zaks and the Dragon. Through flashbacks shown in the 8-bit retro style of the classic Dizzy games, we learn that twenty years ago Zaks summoned the Dragon to help him get rid of the Yolkfolk once and for all. Unfortunately the Dragon ran amok and he couldn't control the beast. Zaks didn't want to rule a burning, destroyed wasteland, so he cast a spell to put the Dragon to sleep. However, the spell worked too well and it put everyone to sleep – including himself.

Back in the present Dizzy and Zaks have no choice but to work together to gather the ingredients for the spell that will banish the Dragon from the world. After much adventuring they succeed and the Dragon is banished and everyone is saved. Of course Zaks immediately betrays Dizzy...

But that's a story for another game.



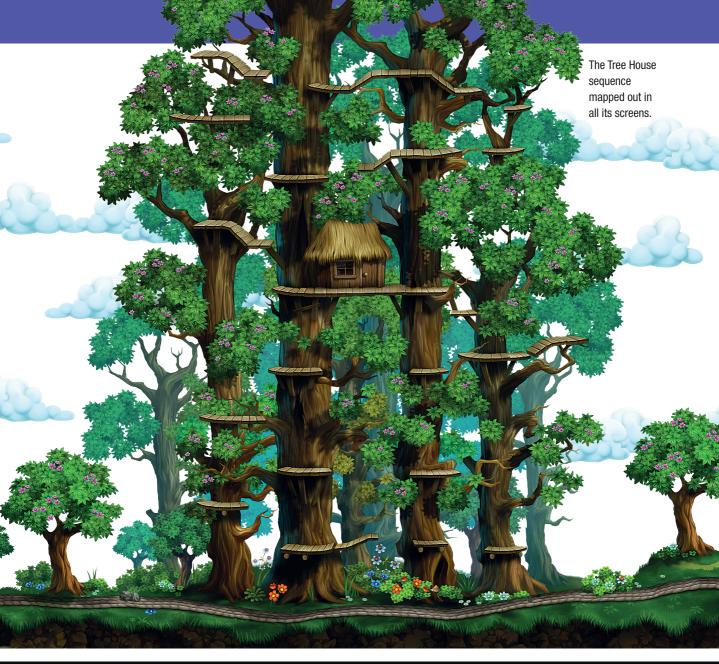
Dizzy leaps across the rapids – concept art for *Dizzy Returns*. **Bottom, left to right:** the Tavern, Underwater on the seabed, the Beach at night and the glowing Crystal Cavern. Dizzy Returns would be a perfect fit for mobile gaming, and touchscreen technology obviously meant they could experiment with and implement new mechanics and new ways of playing in Dizzy Returns.

It was also pretty obvious that any new Dizzy game should have a home on PC, something Dizzy fans regularly asked for so at the time of the Kickstarter campaign the plan was to develop both iOS and PC versions of the game simultaneously.

But times change and – sadly for the legions of Dizzy fans – the exciting developments at Radiant Worlds for *SkySaga* have had to take precedence, leaving us with a tantalizing impression of what might have been.















With thanks and gratitude to all our dizzy
Kickstarter contributors who helped bring to life
the Story of

The Oliver Twins

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